

M67001.AR.006982
MCB CAMP LEJEUNE
5090.3a

VALIDATED DATA PACKAGE, A501570, MCB CAMP LEJEUNE NC
5/21/2015
ENVIRONMENTAL DATA SERVICES

**DATA VALIDATION SUMMARY REPORT
MCB CAMP LEJEUNE, NORTH CAROLINA**

Client: CH2M HILL, Inc., Virginia Beach, Virginia
 SDG: A501570
 Laboratory: Environmental Conservation Laboratories, Inc., Orlando, Florida
 Site: MCB Camp Lejeune, LTM FY2015 Q2, Site 78, CTO-WE86
 Date: May 21, 2015

EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1	IR78-GW101MCH-15A	A501570-01	Water
1RE*	IR78-GW101MCH-15ARE	A501570-01RE	Water
2	IR78-GW103MCH-15A	A501570-02	Water
2RE*	IR78-GW103MCH-15ARE	A501570-02RE	Water
3	IR78-GW104LCH-15A	A501570-03	Water
4	IR78-GW113-15A	A501570-04	Water
4RE	IR78-GW113-15ARE	A501570-04RE	Water
5	IR78-GW114-15A	A501570-05	Water
5RE†	IR78-GW114-15ARE	A501570-05RE	Water
6	IR78-GW116MCH-15A	A501570-06	Water
7	IR78-GW117UCH-15A	A501570-07	Water
8	IR78-RW10-15A	A501570-08	Water
9	IR78-RW11-15A	A501570-09	Water
10	IR78-RW12-15A	A501570-10	Water
10RE*	IR78-RW12-15ARE	A501570-10RE	Water
11	IR78-GW04-1-15A	A501570-11	Water
11RE†	IR78-GW04-1-15ARE	A501570-11RE	Water
12	IR78-GW09-3--15A	A501570-12	Water
12RE*	IR78-GW09-3--15ARE	A501570-12RE	Water
13	IR78-GW10-15A	A501570-13	Water
13RE†	IR78-GW10-15ARE	A501570-13RE	Water
14	IR78-GW10D-15A	A501570-14	Water
15	IR78-GW11-15A	A501570-15	Water
15RE†	IR78-GW11-15ARE	A501570-15RE	Water
16	IR78-GW11D-15A	A501570-16	Water
16RE†	IR78-GW11D-15ARE	A501570-16RE	Water
17	IR78-GW42-15A	A501570-17	Water
17MS	IR78-GW42-15AMS	A501570-17MS	Water
17MSD	IR78-GW42-15AMSD	A501570-17MSD	Water
17RE†	IR78-GW42-15ARE	A501570-17RE	Water
18	IR78-GW49-15A	A501570-18	Water
19	IR78-GW50-15A	A501570-19	Water
19RE	IR78-GW50-15ARE	A501570-19RE	Water
20	IR78-GW52R-15A	A501570-20	Water
21	IR78-GW53R-15A	A501570-21	Water
21RE†	IR78-GW53R-15ARE	A501570-21RE	Water

EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
22	IR78-GW56-15A	A501570-22	Water
22RE†	IR78-GW56-15ARE	A501570-22RE	Water
23	IR78-GW60-15A	A501570-23	Water
23RE†	IR78-GW60-15ARE	A501570-23RE	Water
24	IR78-TB-031515-2	A501570-24	Water

* - VOCs only

† - Metals/Mercury only

A full data validation was performed on the analytical data for twenty-three water samples and one aqueous trip blank sample collected on March 13-14, 2015 by CH2M HILL at MCB Camp Lejeune in North Carolina. The samples were analyzed under the Environmental Protection Agency (USEPA) "Test Methods for the Evaluation of Solid Waste, USEPA SW-846, Third Edition, September 1986, with revisions".

Specific method references are as follows:

Analysis

VOCs
Metals/Hg

Method References

USEPA SW-846 Method 8260B
USEPA SW-846 Methods 6020A/7470A

The data have been validated according to the protocols and quality control (QC) requirements of the analytical methods, the USEPA National Functional Guidelines for Organic and Inorganic Data Review as follows:

- The USEPA "Contract Laboratories Program National Functional Guidelines for Superfund Organic Methods Data Review," June 2008;
- The USEPA "Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review," January 2010;
- and the reviewer's professional judgment.

The following items/criteria were reviewed for this report:

Organics

- Holding times and sample preservation
- Gas Chromatography/Mass Spectroscopy (GC/MS) Tuning
- Initial and continuing calibration summaries
- Method blank and field blank contamination
- Surrogate Spike recoveries
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) recoveries
- Laboratory Control Sample (LCS) recoveries
- Internal standard area and retention time summary forms
- Target Compound Identification
- Compound Quantitation
- Tentatively Identified Compounds (TICs)
- Field Duplicate sample precision

Inorganics

- Holding times and sample preservation
- ICP/MS Tuning
- Initial and continuing calibration verifications
- Method blank and field blank contamination
- ICP Interference Check Sample
- Laboratory Control Sample (LCS) recoveries
- Matrix Spike Analysis
- Duplicate Sample Analysis
- ICP Serial Dilution
- Compound Quantitation
- Field Duplicate sample precision

A full (Level IV) data validation was performed with this review including a recalculation of 10% of the detected results in the samples.

Overall Usability Issues:

There were no rejections of data.

Overall the data is acceptable for the intended purposes as qualified for the deficiencies detailed in this report.

Please note that any results qualified (U) due to blank contamination may be then qualified (J) due to another action. Therefore, the results may be qualified (UJ) due to the culmination of the blank contaminations and actions from other exceedences of QC criteria.

Volatile Organic Compounds (VOC)

Holding Times

- All samples were analyzed within 14 days for preserved water samples except the following.

Sample	Date Sampled	Date Analyzed	# of Days	Qualifier
1RE	03/13/13	04/07/15	24	J/UJ
2RE	03/13/13	04/02/15	19	J/UJ
4RE	03/15/15	04/07/15	22	J/UJ
10RE	03/14/15	04/07/15	23	J/UJ
12RE	03/13/15	04/02/15	19	J/UJ
19RE	03/13/15	04/02/15	19	J/UJ

GC/MS Tuning

- All criteria were met.

Initial Calibration

- All %RSD and/or correlation coefficients and mean RRF criteria were met.

Continuing Calibration

- All %D and RRF criteria were met.

Method Blank

- The method blanks exhibited the following contamination.

Blank ID	Compound	Conc. ug/L	Qualifier	Affected Samples
5C24024-BLK1	Methylene chloride	4.8	U	1, 2, 11, 12, 18

Field Blank

- Field QC results are summarized below.

Blank ID	Compound	Conc. ug/L	Qualifier	Affected Samples
IR78-TB-031515-2	None - ND	-	-	-
IR78-EB-031515-GW (SDG A501212)	None - ND	-	-	-

Surrogate Spike Recoveries

- All samples exhibited acceptable surrogate %R values except the following.

Sample ID	Surrogate	%R	Qualifier
1	Dibromofluoromethane	77%	J/UJ
	Toluene-d8	81%	
1RE	Toluene-d8	88%	None - See HT
2	Toluene-d8	72%	J/UJ
4	4-Bromofluorobenzene	84%	J/UJ
10	Toluene-d8	88%	J/UJ
10RE	Toluene-d8	88%	None - See HT
12	4-Bromofluorobenzene	81%	J/UJ
13	Dibromofluoromethane	121%	None - Sample ND
	Toluene-d8	113%	

Sample ID	Surrogate	%R	Qualifier
14	Dibromofluoromethane	120%	None - Sample ND
	Toluene-d8	114%	
15	Toluene-d8	113%	None - Sample ND
19	Toluene-d8	82%	J/UJ
19RE	Dibromofluoromethane	120%	None - All ND
24	Toluene-d8	113%	None - Sample ND

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

- The MS/MSD sample exhibited acceptable %R and RPD values except the following.

MS/MSD Sample ID	Compound	MS %R/MSD %R/ RPD	Qualifier	Affected Samples
17	cis-1,2-Dichloroethene	OK/58%/OK	J/UJ	17
	1,2-Dibromo-3-chloropropane	OK/OK/21	None	None for RPD Alone

Laboratory Control Samples

- The LCS samples exhibited acceptable percent recoveries (%R) except the following.

LCS ID	Compound	%R	Qualifier	Affected Samples
5C20013-BS1	1,1-Dichloroethene	132%	None	All Associated ND
	trans-1,2-Dichloroethene	132%	None	
	1,1-Dichloroethane	127%	None	
	Trichloroethene	125%	None	
5C24024-BS1	Methylene chloride	170%	None	All Associated ND
	Trichloroethene	131%	None	
	1,2-Dibromo-3-chloropropane	155%	None	
5C25015-BS1	1,2-Dibromo-3-chloropropane	135%	None	All Associated ND
5D07016-BS1	1,2-Dibromo-3-chloropropane	144%	None	All Associated ND

Internal Standard (IS) Area Performance

- All internal standards met response and retention time (RT) criteria.

Target Compound Identification

- All mass spectra and quantitation criteria were met.

Compound Quantitation

- Several samples were reanalyzed for surrogate deficiencies outside holding time. See Form Is for which to use for reporting purposes.

Tentatively Identified Compounds (TICs)

- TICs were not reported.

Field Duplicate Sample Precision

- Field duplicate results are summarized below.

VOCs				
Compound	IR78-GW10-15A ug/L	IR78-GW10D-15A ug/L	RPD	Qualifier
None	ND	ND	-	-

VOCs				
Compound	IR78-GW11-15A ug/L	IR78-GW11D-15A ug/L	RPD	Qualifier
None	ND	ND	-	-

Metals & Mercury

Holding Times

- All samples were prepared and analyzed within 28 days for mercury and 180 days for all other metals.

Initial Calibration Verification

- All initial calibration criteria were met.

Continuing Calibration Verification

- All continuing calibration criteria were met except the following.

CCAL Date	Compound	%D/RRF	Qualifier	Affected Samples
CCV1	Sodium	111%	None	See MS/MSD
CCV2	Iron	113%	J	4, 5, 11, 13-17, 19, 21-23
CCV6	Sodium	113%	J	4RE, 5RE

Method Blank

- The method blanks were free of contamination.

Field Blank

- The field QC samples exhibited the following contamination.

Blank ID	Compound	Conc. ug/L	Qualifier	Affected Samples
IR78-EB-031515-GW (SDG A501212)	Calcium	117	None	All >10X
	Copper	3.15	U	4, 5, 11, 13, 14, 16, 17
	Manganese	0.341	U	13, 14, 15, 16
	Nickel	0.906	U	4, 5, 11, 13, 14, 17, 21, 22
	Sodium	215	U	15, 16, 19, 21, 22
	Zinc	7.73	U	4, 11, 17

ICP Interference Check Sample

- The ICP interference check sample exhibited acceptable %R values.

Laboratory Control Samples

- The LCS sample exhibited acceptable recoveries.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

- The MS/MSD sample exhibited acceptable %R and RPD values except the following.

MS/MSD Sample ID	Compound	MS %R/MSD %R/ RPD	Qualifier
17	Calcium	OK/67%/OK	None - 4X Rule Applies
	Iron	686%/553%/OK	None - 4X Rule Applies
	Potassium	118%/116%/OK	J - All Positive Results
	Sodium	168%/171%/OK	J - All Positive Results

ICP Serial Dilution

- ICP serial dilution percent differences (%D) were acceptable.

Compound Quantitation

- Several samples were reanalyzed for various reasons and several compounds were reported in the reanalysis. Please refer to the Form Is for which sample results to use for reporting purposes.

Field Duplicate Sample Precision

- Field duplicate results are summarized below.

Metals				
Compound	IR78-GW10-15A ug/L	IR78-GW10D-15A ug/L	RPD	Qualifier
Aluminum	40.2	40.5	1%	None
Antimony	0.219	0.220	0%	
Barium	8.06	7.99	1%	
Calcium	53900	54400	1%	
Iron	14.2	15.8	11%	
Magnesium	1430	1410	1%	
Potassium	592	596	1%	
Selenium	5.07	5.07	0%	
Sodium	3100	3000	3%	
Vanadium	0.279	0.282	1%	

Metals				
Compound	IR78-GW11-15A ug/L	IR78-GW11D-15A ug/L	RPD	Qualifier
Aluminum	203	165	21%	None
Barium	8.79	8.80	0%	None
Calcium	20900	21300	2%	
Iron	59.5	47.1	23%	
Magnesium	897	880	2%	
Potassium	253	248	2%	
Selenium	2.31	2.26	2%	
Vanadium	0.358	0.311	14%	

Please contact the undersigned at (757) 564-0090 if you have any questions or need further information.

Signed: 
 Nancy Weaver
 Senior Chemist

Dated: 5/26/15

Data Qualifiers

- U = The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the adjusted Contract Required Quantitation Limit (CRQL) for sample and method.
- UJ = The analyte was not detected at a level greater than or equal to the adjusted CRQL. However, the reported adjusted CRQL is approximate and may be inaccurate or imprecise.
- J = The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample (due either to the quality of the data generated because certain quality control criteria were not met, or the concentration of the analyte was below the CRQL).
- J+ = The result is an estimated quantity, but the result may be biased high.
- J- = The result is an estimated quantity, but the result may be biased low.
- R = The sample results are unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.
- NJ = The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\032515\2CT016.D
 Acq On : 25 Mar 2015 13:17
 Sample : A501570-10
 Misc :
 MS Integration Params: rteint.p
 Quant Time: Mar 25 13:50 2015

Vial: 16
 Operator: NMC
 Inst : OVGCMS2
 Multiplr: 1.00

Quant Results File: 020615.RES

Quant Method : C:\HPCHEM\1\METHODS\020615.M (RTE Integrator)
 Title : ENCO SOPVGCMS/05;element cal 1502029
 Last Update : Wed Mar 04 08:10:07 2015
 Response via : Initial Calibration
 DataAcq Meth : 8260S

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
46) Trichloroethene	11.55	130	14187	3.06 ug/L #	62
47) 1,2-Dichloropropane	0.00	63		N.D.	
48) Methyl Methacrylate	0.00	100		N.D.	
49) 1,4-Dioxane	0.00	88		N.D. d	
50) Bromodichloromethane	0.00	83		N.D.	
51) Dibromomethane	0.00	93		N.D.	
52) 4-Methyl-2-Pentanone	0.00	100		N.D.	
53) 2-Chloroethyl vinyl ether	0.00	63		N.D.	
54) 2-Hexanone	0.00	43		N.D.	
55) C-1,3-Dichloropropene	0.00	75		N.D.	
57) D8-Toluene	12.84	98	707229	44.04 ug/L	99
59) Toluene	0.00	92		N.D.	
60) Ethyl Methacrylate	0.00	69		N.D.	
61) T-1,3-Dichloropropene	0.00	75		N.D.	
62) 1,1,2-Trichloroethane	0.00	97		N.D.	
63) 1,3-Dichloropropane	0.00	76		N.D.	
64) Tetrachloroethene	0.00	164		N.D.	
65) Dibromochloromethane	0.00	129		N.D.	
66) 1,2-Dibromoethane	0.00	107		N.D.	
67) Chlorobenzene	0.00	112		N.D.	
68) 1,1,1,2-Tetrachloroethane	0.00	131		N.D.	
69) Ethylbenzene	0.00	106		N.D.	
70) m-xylene & p-xylene	0.00	106		N.D.	
71) O-Xylene	0.00	106		N.D.	
72) Bromoform	0.00	173		N.D.	
73) Styrene	0.00	104		N.D. d	
74) Isopropylbenzene	0.00	105		N.D. d	
75) 1,2,3-Trichloropropane	0.00	75		N.D.	
76) 1,1,2,2-Tetrachloroethane	0.00	83		N.D.	
78) Bromofluorobenzene	15.32	95	257797	45.07 ug/L	89
79) T-1,4-dichloro-2-butene	0.00	53		N.D.	
80) N-Propylbenzene	0.00	91		N.D.	
81) Pentachloroethane	0.00	167		N.D.	
83) Bromobenzene	0.00	156		N.D.	
84) 1,3,5-Trimethylbenzene	0.00	105		N.D.	
85) 2-Chlorotoluene	0.00	91		N.D.	
86) 4-Chlorotoluene	0.00	91		N.D.	
87) 1,2,4-Trimethylbenzene	0.00	105		N.D.	
88) s-Butylbenzene	0.00	105		N.D.	
89) tert-Butylbenzene	0.00	119		N.D.	
90) p-Isopropyltoluene	0.00	119		N.D.	
91) 1,3-Dichlorobenzene	0.00	146		N.D.	
92) 1,4-Dichlorobenzene	0.00	146		N.D.	
93) 1,2-Dichlorobenzene	0.00	146		N.D.	
94) N-Butylbenzene	0.00	91		N.D.	
95) DBCP	0.00	75		N.D.	
96) Naphthalene	19.92	128	6835	1.01 ug/L	100
97) 1,2,4-Trichlorobenzene	0.00	180		N.D.	
98) Hexachlorobutadiene	0.00	225		N.D.	
99) 1,2,3-Trichlorobenzene	0.00	180		N.D.	

23.1

14187 x 50

 662874 x 0.3493
 = 3.06 ug/L

| Tl 205
 | Pb 206
 | Pb 207
 |- Pb 208

QC Out of Limits

Measurement Analyte Mass Out of Limits Message

QC Action

QC Action I No QC out of limits detected

SOP MET-15 - Summary Report

Sample ID: A501570-17

Sample Date Friday, March 27, 2015 10:39:25

Sample Type Sample

Instrument Description: OMICPMS1 S/N W0540312H

Number of 3

Sample File C:\Elandata\Sample\Mar 2015\032715.sam

Method File C:\Elandata\Method\Mar 2015\032715_RP2_DOD.mth

Dataset File C:\Elandata\DataSet\Mar 2015\032715\A501570-17.030

Tuning File C:\Elandata\Tuning\Mar 2015\032715.tun

Optimization File C:\Elandata\Optimize\Mar 2015\032715.dac

Concentration Results

	Analyte	Mass	Meas. Int	Net Intens.	Conc. Mea	Conc. SD	Conc. RSD	Sample Unit
-	Be	9	106.001	0.000303	0.2249	0.0357	15.8596	ug/L
	Na	23	7119354	22.29719	8902.548	304.2534	3.4176	ug/L
	Mg	24	2839473	8.890545	2673.816	96.5735	3.6118	ug/L
	Al	27	67600.67	0.211405	49.6838	2.6254	5.2842	ug/L
	K	39	2658765	8.211301	1920.898	38.1515	1.9861	ug/L
	Ca	43	566714.6	1.774186	33416.39	493.148	1.4758	ug/L
>	Sc	45	319373.3	319373.3				ug/L
-	V	51	28266.13	0.081735	2.8554	0.0403	1.4131	ug/L
>	In	115	172028.2	172028.2				ug/L
	Cr	52	541.349	0.002301	0.4734	0.0354	7.4804	ug/L
-	Fe	56	14003432	81.40784	8896.061	199.1568	2.2387	ug/L
-	Cr-1	52	11011.33	0.064313	0.5192	0.0387	7.4634	ug/L
	Mn	55	680129.4	11.48111	57.872	1.8177	3.1409	ug/L
	Co	59	898.044	0.01418	-0.0777	0.0022	2.7931	ug/L
	Ni	60	1526.129	0.02499	0.6441	0.0458	7.112	ug/L
	Cu	65	854.04	0.013048	0.2819	0.0294	10.4201	ug/L
	Zn	66	6557.699	0.106976	4.2408	0.1741	4.1042	ug/L
>	Ge	72	59154.6	59154.6				ug/L
-	As	75	461.012	0.000617	0.4078	0.0203	4.9671	ug/L
	Se	78	-19.074	-4.8E-05	-0.168	0.0886	52.7695	ug/L
>	In-1	115	341834.4	341834.4				ug/L
-	Ag	107	66.667	6.38E-05	-0.0055	0.0017	30.1503	ug/L
	Cd	111	352.603	0.000095	0.0195	0.003	15.23	ug/L
>	In-2	115	607229.6	607229.6				ug/L
	Sb	121	908.045	0.001456	0.1426	0.0026	1.8015	ug/L
-	Ba	135	75426.28	0.124176	49.3462	0.358	0.7255	ug/L

1 RE

ORGANIC ANALYSIS DATA SHEET

EPA 8260B

IR78-GW101MCH-15A

Laboratory: ENCO Orlando SDG: A501570-CTOWE86
 Client: CH2M Hill, Inc. (CH025) Project: CTO-WE86 MCB Camp Lejeune Site 78
 Matrix: Ground Water Laboratory ID: A501570-01RE1 File ID: 2DB009.D
 Sampled: 03/13/15 17:10 Prepared: 04/07/15 00:00 Analyzed: 04/07/15 11:36
 Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL
 Batch: 5D07016 Sequence: AA33335 Calibration: 1502029 Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	LOD	LOQ
75-01-4	Vinyl chloride	1	1.5 J	JQ	0.71	1.0	2.0
75-35-4	1,1-Dichloroethene	1	<1.0 UJ	UQ	0.94	1.0	2.0
75-09-2	Methylene Chloride	1	<5.0 ↓	UQ	2.0	5.0	10
156-60-5	trans-1,2-Dichloroethene	1	<1.0 ↓	UQ	0.73	1.0	2.0
156-59-2	cis-1,2-Dichloroethene	1	9.4 J	Q	0.53	1.0	2.0
75-34-3	1,1-Dichloroethane	1	<1.0 UJ	UQ	0.62	1.0	2.0
107-06-2	1,2-Dichloroethane	1	<1.0 ↓	UQ	0.63	1.0	2.0
71-43-2	Benzene	1	<1.0 ↓	UQ	0.71	1.0	2.0
79-01-6	Trichloroethene	1	<1.0 ↓	UQ	0.89	1.0	2.0
108-88-3	Toluene	1	<1.0 ↓	UQ	0.72	1.0	2.0
127-18-4	Tetrachloroethene	1	<1.0 ↓	UQ	0.76	1.0	2.0
100-41-4	Ethylbenzene	1	<1.0 ↓	UQ	0.69	1.0	2.0
98-82-8	Isopropylbenzene	1	<1.0 ↓	UQ	0.67	1.0	2.0
96-12-8	1,2-Dibromo-3-chloropropane	1	<5.0 ↓	UQ	0.96	5.0	10
1330-20-7	Xylenes (Total)	1	<2.0 ↓	UQ	1.3	2.0	4.0
540-59-0	1,2-Dichloroethene (Total)	1	9.4 J	Q	0.73	1.0	2.0

HT

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	47	93	80 - 119	
Toluene-d8	50.0	44	88	89 - 112	*
4-Bromofluorobenzene	50.0	45	90	85 - 114	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	374917	10.97	360813	11	
1,4-Difluorobenzene	644770	11.54	613683	11.57	
Chlorobenzene-d5	582906	14.23	591959	14.25	
1,4-Dichlorobenzene-d4	247222	16.49	257796	16.52	

* Values outside of QC limits

ms status

4

ORGANIC ANALYSIS DATA SHEET
EPA 8260B

IR78-GW113-15A

Laboratory: ENCO Orlando SDG: A501570-CTOWE86
 Client: CH2M Hill, Inc. (CH025) Project: CTO-WE86 MCB Camp Lejeune Site 78
 Matrix: Ground Water Laboratory ID: A501570-04 File ID: 1CS008.D
 Sampled: 03/15/15 10:30 Prepared: 03/24/15 00:00 Analyzed: 03/24/15 10:17
 Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL
 Batch: 5C24024 Sequence: AA33117 Calibration: 1503088 Instrument: OVGCMS1

Use reanalysis results

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	LOD	LOQ
75-01-4	Vinyl chloride	1	<1.0 UJ	U	0.71	1.0	2.0
75-35-4	1,1-Dichloroethene	1	<1.0 UJ	U	0.94	1.0	2.0
75-09-2	Methylene Chloride	1	<5.0 UJ	U	2.0	5.0	10
156-60-5	trans-1,2-Dichloroethene	1	<1.0 UJ	U	0.73	1.0	2.0
156-59-2	cis-1,2-Dichloroethene	1	4.8 J		0.53	1.0	2.0
75-34-3	1,1-Dichloroethane	1	<1.0 UJ	U	0.62	1.0	2.0
107-06-2	1,2-Dichloroethane	1	<1.0 UJ	U	0.63	1.0	2.0
71-43-2	Benzene	1	<1.0 UJ	U	0.71	1.0	2.0
79-01-6	Trichloroethene	1	<1.0 UJ	U	0.89	1.0	2.0
108-88-3	Toluene	1	<1.0 UJ	U	0.72	1.0	2.0
127-18-4	Tetrachloroethene	1	<1.0 UJ	U	0.76	1.0	2.0
100-41-4	Ethylbenzene	1	<1.0 UJ	U	0.69	1.0	2.0
98-82-8	Isopropylbenzene	1	<1.0 UJ	U	0.67	1.0	2.0
96-12-8	1,2-Dibromo-3-chloropropane	1	<5.0 UJ	U	0.96	5.0	10
1330-20-7	Xylenes (Total)	1	<2.0 UJ	U	1.3	2.0	4.0
540-59-0	1,2-Dichloroethene (Total)	1	4.8 J		0.73	1.0	2.0

SSC

Exclude

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	41	83	80 - 119	
Toluene-d8	50.0	45	90	89 - 112	
4-Bromofluorobenzene	50.0	42	84	85 - 114	*

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	148668	11.46	189013	11.47	
1,4-Difluorobenzene	275694	12.03	339774	12.04	
Chlorobenzene-d5	274776	14.71	244965	14.72	
1,4-Dichlorobenzene-d4	94372	17.08	91047	17.1	

* Values outside of QC limits

mw 5/21/15

ORGANIC ANALYSIS DATA SHEET

EPA 8260B

IR78-GW114-15A

Laboratory: ENCO Orlando SDG: A501570-CTOWE86
 Client: CH2M Hill, Inc. (CH025) Project: CTO-WE86 MCB Camp Lejeune Site 78
 Matrix: Ground Water Laboratory ID: A501570-05 File ID: 5CU005.D
 Sampled: 03/15/15 12:00 Prepared: 03/26/15 00:00 Analyzed: 03/26/15 08:50
 Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL
 Batch: 5C26010 Sequence: AA33158 Calibration: 1503091 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	LOD	LOQ
75-01-4	Vinyl chloride	1	3.9		0.71	1.0	2.0
75-35-4	1,1-Dichloroethene	1	<1.0	U	0.94	1.0	2.0
75-09-2	Methylene Chloride	1	<5.0	U	2.0	5.0	10
156-60-5	trans-1,2-Dichloroethene	1	28		0.73	1.0	2.0
156-59-2	cis-1,2-Dichloroethene	1	15		0.53	1.0	2.0
75-34-3	1,1-Dichloroethane	1	<1.0	U	0.62	1.0	2.0
107-06-2	1,2-Dichloroethane	1	0.91	J	0.63	1.0	2.0
71-43-2	Benzene	1	<1.0	U	0.71	1.0	2.0
79-01-6	Trichloroethene	1	79		0.89	1.0	2.0
108-88-3	Toluene	1	<1.0	U	0.72	1.0	2.0
127-18-4	Tetrachloroethene	1	29		0.76	1.0	2.0
100-41-4	Ethylbenzene	1	<1.0	U	0.69	1.0	2.0
98-82-8	Isopropylbenzene	1	<1.0	U	0.67	1.0	2.0
96-12-8	1,2-Dibromo-3-chloropropane	1	4.8	J	0.96	5.0	10
1330-20-7	Xylenes (Total)	1	<2.0	UC	1.3	2.0	4.0
540-59-0	1,2-Dichloroethene (Total)	1	44		0.73	1.0	2.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	48	96	80 - 119	
Toluene-d8	50.0	54	107	89 - 112	
4-Bromofluorobenzene	50.0	48	96	85 - 114	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	536924	11.482	646118	11.491	
1,4-Difluorobenzene	888239	12.181	1132565	12.189	
Chlorobenzene-d5	884033	15.615	1071316	15.632	
1,4-Dichlorobenzene-d4	454978	18.59	548927	18.606	

* Values outside of QC limits

rw 5/21/15

ORGANIC ANALYSIS DATA SHEET
EPA 8260B

IR78-GW116MCH-15A

Laboratory: ENCO Orlando SDG: A501570-CTOWE86
 Client: CH2M Hill, Inc. (CH025) Project: CTO-WE86 MCB Camp Lejeune Site 78
 Matrix: Ground Water Laboratory ID: A501570-06 File ID: 2CS008.D
 Sampled: 03/13/15 12:10 Prepared: 03/24/15 00:00 Analyzed: 03/24/15 09:47
 Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL
 Batch: 5C24029 Sequence: AA33119 Calibration: 1502029 Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	LOD	LOQ
75-01-4	Vinyl chloride	50	54	JD	36	50	100
75-35-4	1,1-Dichloroethene	50	<50	UD	47	50	100
75-09-2	Methylene Chloride	50	<250	UD	100	250	500
156-60-5	trans-1,2-Dichloroethene	50	320	D	36	50	100
156-59-2	cis-1,2-Dichloroethene	50	1300	D	26	50	100
75-34-3	1,1-Dichloroethane	50	<50	UD	31	50	100
107-06-2	1,2-Dichloroethane	50	<50	UD	32	50	100
71-43-2	Benzene	50	<50	UD	36	50	100
79-01-6	Trichloroethene	50	2200	D	44	50	100
108-88-3	Toluene	50	<50	UD	36	50	100
127-18-4	Tetrachloroethene	50	99	JD	38	50	100
100-41-4	Ethylbenzene	50	<50	UD	34	50	100
98-82-8	Isopropylbenzene	50	<50	UD	34	50	100
96-12-8	1,2-Dibromo-3-chloropropane	50	<250	UD	48	250	500
1330-20-7	Xylenes (Total)	50	<100	UD	65	100	200
540-59-0	1,2-Dichloroethene (Total)	50	1600	D	36	50	100

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	49	98	80 - 119	
Toluene-d8	50.0	45	90	89 - 112	
4-Bromofluorobenzene	50.0	45	90	85 - 114	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	389058	10.98	360813	11	
1,4-Difluorobenzene	662580	11.56	613683	11.57	
Chlorobenzene-d5	593174	14.23	591959	14.25	
1,4-Dichlorobenzene-d4	251119	16.5	257796	16.52	

* Values outside of QC limits

NW 5/21/15

7

ORGANIC ANALYSIS DATA SHEET

IR78-GW117UCH-15A

EPA 8260B

Laboratory: ENCO Orlando SDG: A501570-CTOWE86
 Client: CH2M Hill, Inc. (CH025) Project: CTO-WE86 MCB Camp Lejeune Site 78
 Matrix: Ground Water Laboratory ID: A501570-07 File ID: 2CS009.D
 Sampled: 03/13/15 11:20 Prepared: 03/24/15 00:00 Analyzed: 03/24/15 10:16
 Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL
 Batch: 5C24029 Sequence: AA33119 Calibration: 1502029 Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	LOD	LOQ
75-01-4	Vinyl chloride	1	<1.0	U	0.71	1.0	2.0
75-35-4	1,1-Dichloroethene	1	<1.0	U	0.94	1.0	2.0
75-09-2	Methylene Chloride	1	<5.0	U	2.0	5.0	10
156-60-5	trans-1,2-Dichloroethene	1	<1.0	U	0.73	1.0	2.0
156-59-2	cis-1,2-Dichloroethene	1	0.80	J	0.53	1.0	2.0
75-34-3	1,1-Dichloroethane	1	<1.0	U	0.62	1.0	2.0
107-06-2	1,2-Dichloroethane	1	<1.0	U	0.63	1.0	2.0
71-43-2	Benzene	1	<1.0	U	0.71	1.0	2.0
79-01-6	Trichloroethene	1	4.1		0.89	1.0	2.0
108-88-3	Toluene	1	<1.0	U	0.72	1.0	2.0
127-18-4	Tetrachloroethene	1	1.2	J	0.76	1.0	2.0
100-41-4	Ethylbenzene	1	<1.0	U	0.69	1.0	2.0
98-82-8	Isopropylbenzene	1	<1.0	U	0.67	1.0	2.0
96-12-8	1,2-Dibromo-3-chloropropane	1	<5.0	U	0.96	5.0	10
1330-20-7	Xylenes (Total)	1	<2.0	U	1.3	2.0	4.0
540-59-0	1,2-Dichloroethene (Total)	1	0.80	J	0.73	1.0	2.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	48	96	80 - 119	
Toluene-d8	50.0	45	90	89 - 112	
4-Bromofluorobenzene	50.0	45	90	85 - 114	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	385993	10.98	360813	11	
1,4-Difluorobenzene	665768	11.56	613683	11.57	
Chlorobenzene-d5	592409	14.23	591959	14.25	
1,4-Dichlorobenzene-d4	250236	16.5	257796	16.52	

* Values outside of QC limits

NW 5/21/15

8

ORGANIC ANALYSIS DATA SHEET

EPA 8260B

IR78-RW10-15A

Laboratory: ENCO Orlando SDG: A501570-CTOWE86
 Client: CH2M Hill, Inc. (CH025) Project: CTO-WE86 MCB Camp Lejeune Site 78
 Matrix: Ground Water Laboratory ID: A501570-08 File ID: 2CT014.D
 Sampled: 03/14/15 10:50 Prepared: 03/25/15 00:00 Analyzed: 03/25/15 12:19
 Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL
 Batch: 5C25015 Sequence: AA33136 Calibration: 1502029 Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	LOD	LOQ
75-01-4	Vinyl chloride	1	<1.0	U	0.71	1.0	2.0
75-35-4	1,1-Dichloroethene	1	<1.0	U	0.94	1.0	2.0
75-09-2	Methylene Chloride	1	<5.0	U	2.0	5.0	10
156-60-5	trans-1,2-Dichloroethene	1	<1.0	U	0.73	1.0	2.0
156-59-2	cis-1,2-Dichloroethene	1	3.0		0.53	1.0	2.0
75-34-3	1,1-Dichloroethane	1	<1.0	U	0.62	1.0	2.0
107-06-2	1,2-Dichloroethane	1	<1.0	U	0.63	1.0	2.0
71-43-2	Benzene	1	13		0.71	1.0	2.0
79-01-6	Trichloroethene	1	1.5	J	0.89	1.0	2.0
108-88-3	Toluene	1	<1.0	U	0.72	1.0	2.0
127-18-4	Tetrachloroethene	1	<1.0	U	0.76	1.0	2.0
100-41-4	Ethylbenzene	1	<1.0	U	0.69	1.0	2.0
98-82-8	Isopropylbenzene	1	<1.0	U	0.67	1.0	2.0
96-12-8	1,2-Dibromo-3-chloropropane	1	<5.0	U Q	0.96	5.0	10
1330-20-7	Xylenes (Total)	1	<2.0	U	1.3	2.0	4.0
540-59-0	1,2-Dichloroethene (Total)	1	3.0		0.73	1.0	2.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	50	100	80 - 119	
Toluene-d8	50.0	44	89	89 - 112	
4-Bromofluorobenzene	50.0	47	93	85 - 114	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	376365	10.98	360813	11	
1,4-Difluorobenzene	644546	11.55	613683	11.57	
Chlorobenzene-d5	555112	14.23	591959	14.25	
1,4-Dichlorobenzene-d4	268414	16.5	257796	16.52	

* Values outside of QC limits

mszilis

ORGANIC ANALYSIS DATA SHEET
EPA 8260B

9
IR78-RW11-15A

Laboratory: ENCO Orlando SDG: A501570-CTOWE86
 Client: CH2M Hill, Inc. (CH025) Project: CTO-WE86 MCB Camp Lejeune Site 78
 Matrix: Ground Water Laboratory ID: A501570-09 File ID: 2CT015.D
 Sampled: 03/14/15 13:15 Prepared: 03/25/15 00:00 Analyzed: 03/25/15 12:48
 Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL
 Batch: 5C25015 Sequence: AA33136 Calibration: 1502029 Instrument: OVGCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	LOD	LOQ
75-01-4	Vinyl chloride	1	190		0.71	1.0	2.0
75-35-4	1,1-Dichloroethene	1	<1.0	U	0.94	1.0	2.0
75-09-2	Methylene Chloride	1	<5.0	U	2.0	5.0	10
156-60-5	trans-1,2-Dichloroethene	1	2.8		0.73	1.0	2.0
156-59-2	cis-1,2-Dichloroethene	1	73		0.53	1.0	2.0
75-34-3	1,1-Dichloroethane	1	<1.0	U	0.62	1.0	2.0
107-06-2	1,2-Dichloroethane	1	<1.0	U	0.63	1.0	2.0
71-43-2	Benzene	1	1.2	J	0.71	1.0	2.0
79-01-6	Trichloroethene	1	1.2	J	0.89	1.0	2.0
108-88-3	Toluene	1	0.75	J	0.72	1.0	2.0
127-18-4	Tetrachloroethene	1	<1.0	U	0.76	1.0	2.0
100-41-4	Ethylbenzene	1	<1.0	U	0.69	1.0	2.0
98-82-8	Isopropylbenzene	1	<1.0	U	0.67	1.0	2.0
96-12-8	1,2-Dibromo-3-chloropropane	1	<5.0	U Q	0.96	5.0	10
1330-20-7	Xylenes (Total)	1	<2.0	U	1.3	2.0	4.0
540-59-0	1,2-Dichloroethene (Total)	1	76		0.73	1.0	2.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	49	98	80 - 119	
Toluene-d8	50.0	45	90	89 - 112	
4-Bromofluorobenzene	50.0	46	91	85 - 114	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	373402	10.98	360813	11	
1,4-Difluorobenzene	647555	11.55	613683	11.57	
Chlorobenzene-d5	598557	14.23	591959	14.25	
1,4-Dichlorobenzene-d4	252955	16.5	257796	16.52	

* Values outside of QC limits

mw slz 15

ORGANIC ANALYSIS DATA SHEET

EPA 8260B

IR78-RW12-15A

Laboratory: ENCO Orlando SDG: A501570-CTOWE86
 Client: CH2M Hill, Inc. (CH025) Project: CTO-WE86 MCB Camp Lejeune Site 78
 Matrix: Ground Water Laboratory ID: A501570-10 File ID: 2CT016.D
 Sampled: 03/14/15 10:40 Prepared: 03/25/15 00:00 Analyzed: 03/25/15 13:17
 Solids: Preparation: EPA 5030B MS Initial/Final: 5 mL / 5 mL
 Batch: 5C25015 Sequence: AA33136 Calibration: 1502029 Instrument: OVGCMS2

Use reanalysis results

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	LOD	LOQ
75-01-4	Vinyl chloride	1	<1.0 <i>UJ</i>	U	0.71	1.0	2.0
75-35-4	1,1-Dichloroethene	1	<1.0 ↓	U	0.94	1.0	2.0
75-09-2	Methylene Chloride	1	<5.0 ↓	U	2.0	5.0	10
156-60-5	trans-1,2-Dichloroethene	1	<1.0 ↓	U	0.73	1.0	2.0
156-59-2	cis-1,2-Dichloroethene	1	1.4 <i>J</i>	J	0.53	1.0	2.0
75-34-3	1,1-Dichloroethane	1	<1.0 <i>UJ</i>	U	0.62	1.0	2.0
107-06-2	1,2-Dichloroethane	1	<1.0 ↓	U	0.63	1.0	2.0
71-43-2	Benzene	1	<1.0 ↓	U	0.71	1.0	2.0
79-01-6	Trichloroethene	1	3.1 <i>J</i>	J	0.89	1.0	2.0
108-88-3	Toluene	1	<1.0 <i>UJ</i>	U	0.72	1.0	2.0
127-18-4	Tetrachloroethene	1	<1.0 ↓	U	0.76	1.0	2.0
100-41-4	Ethylbenzene	1	<1.0 ↓	U	0.69	1.0	2.0
98-82-8	Isopropylbenzene	1	<1.0 ↓	U	0.67	1.0	2.0
96-12-8	1,2-Dibromo-3-chloropropane	1	<5.0 ↓	U	0.96	5.0	10
1330-20-7	Xylenes (Total)	1	<2.0 ↓	U	1.3	2.0	4.0
540-59-0	1,2-Dichloroethene (Total)	1	1.4 <i>J</i>	J	0.73	1.0	2.0

Exclude

SSL

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	47	94	80 - 119	
Toluene-d8	50.0	44	88	89 - 112	*
4-Bromofluorobenzene	50.0	45	90	85 - 114	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	377819	10.98	360813	11	
1,4-Difluorobenzene	662874	11.55	613683	11.57	
Chlorobenzene-d5	588848	14.23	591959	14.25	
1,4-Dichlorobenzene-d4	254005	16.5	257796	16.52	

* Values outside of QC limits

rw sl 2/1/15

ORGANIC ANALYSIS DATA SHEET
EPA 8260B

12
IR78-GW09-3--15A

Laboratory: ENCO Orlando SDG: A501570-CTOWE86
 Client: CH2M Hill, Inc. (CH025) Project: CTO-WE86 MCB Camp Lejeune Site 78
 Matrix: Ground Water Laboratory ID: A501570-12 File ID: 1CS010.D
 Sampled: 03/13/15 09:25 Prepared: 03/24/15 00:00 Analyzed: 03/24/15 11:14
 Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL
 Batch: 5C24024 Sequence: AA33117 Calibration: 1503088 Instrument: OVCMS1

Use reanalysis results

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	LOD	LOQ
75-01-4	Vinyl chloride	1	<1.0 UJ	U	0.71	1.0	2.0
75-35-4	1,1-Dichloroethene	1	<1.0 UJ	U	0.94	1.0	2.0
75-09-2	Methylene Chloride	1	5.0 28 UJ	U	2.0	5.0	10
156-60-5	trans-1,2-Dichloroethene	1	<1.0	U	0.73	1.0	2.0
156-59-2	cis-1,2-Dichloroethene	1	<1.0	U	0.53	1.0	2.0
75-34-3	1,1-Dichloroethane	1	<1.0	U	0.62	1.0	2.0
107-06-2	1,2-Dichloroethane	1	<1.0	U	0.63	1.0	2.0
71-43-2	Benzene	1	<1.0	U	0.71	1.0	2.0
79-01-6	Trichloroethene	1	<1.0	U	0.89	1.0	2.0
108-88-3	Toluene	1	<1.0	U	0.72	1.0	2.0
127-18-4	Tetrachloroethene	1	<1.0	U	0.76	1.0	2.0
100-41-4	Ethylbenzene	1	<1.0	U	0.69	1.0	2.0
98-82-8	Isopropylbenzene	1	<1.0	U	0.67	1.0	2.0
96-12-8	1,2-Dibromo-3-chloropropane	1	<5.0	U	0.96	5.0	10
1330-20-7	Xylenes (Total)	1	<2.0	U	1.3	2.0	4.0
540-59-0	1,2-Dichloroethene (Total)	1	<1.0	U	0.73	1.0	2.0

*SSL
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Exclude

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	40	80	80 - 119	
Toluene-d8	50.0	47	93	89 - 112	
4-Bromofluorobenzene	50.0	41	81	85 - 114	*

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	189103	11.46	189013	11.47	
1,4-Difluorobenzene	332873	12.03	339774	12.04	
Chlorobenzene-d5	299786	14.71	244965	14.72	
1,4-Dichlorobenzene-d4	91534	17.08	91047	17.1	

* Values outside of QC limits

nw status

12PE

ORGANIC ANALYSIS DATA SHEET

EPA 8260B

IR78-GW09-3--15A

Laboratory: ENCO Orlando SDG: A501570-CTOWE86
 Client: CH2M Hill, Inc. (CH025) Project: CTO-WE86 MCB Camp Lejeune Site 78
 Matrix: Ground Water Laboratory ID: A501570-12RE1 File ID: 5D2015.D
 Sampled: 03/13/15 09:25 Prepared: 04/02/15 00:00 Analyzed: 04/02/15 15:10
 Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL
 Batch: 5D02011 Sequence: AA33267 Calibration: 1503091 Instrument: OVGCM55

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	LOD	LOQ
75-01-4	Vinyl chloride	1	<1.0 <i>UJ</i>	UQ	0.71	1.0	2.0
75-35-4	1,1-Dichloroethene	1	<1.0	UQ	0.94	1.0	2.0
75-09-2	Methylene Chloride	1	<5.0	UQ	2.0	5.0	10
156-60-5	trans-1,2-Dichloroethene	1	<1.0	UQ	0.73	1.0	2.0
156-59-2	cis-1,2-Dichloroethene	1	<1.0	UQ	0.53	1.0	2.0
75-34-3	1,1-Dichloroethane	1	<1.0	UQ	0.62	1.0	2.0
107-06-2	1,2-Dichloroethane	1	<1.0	UQ	0.63	1.0	2.0
71-43-2	Benzene	1	<1.0	UQ	0.71	1.0	2.0
79-01-6	Trichloroethene	1	<1.0	UQ	0.89	1.0	2.0
108-88-3	Toluene	1	<1.0	UQ	0.72	1.0	2.0
127-18-4	Tetrachloroethene	1	<1.0	UQ	0.76	1.0	2.0
100-41-4	Ethylbenzene	1	<1.0	UQ	0.69	1.0	2.0
98-82-8	Isopropylbenzene	1	<1.0	UQ	0.67	1.0	2.0
96-12-8	1,2-Dibromo-3-chloropropane	1	<5.0	UQ	0.96	5.0	10
1330-20-7	Xylenes (Total)	1	<2.0	UQ	1.3	2.0	4.0
540-59-0	1,2-Dichloroethene (Total)	1	<1.0	UQ	0.73	1.0	2.0

HT ↓

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	56	112	80 - 119	
Toluene-d8	50.0	55	109	89 - 112	
4-Bromofluorobenzene	50.0	48	95	85 - 114	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	499575	11.474	646118	11.491	
1,4-Difluorobenzene	933861	12.172	1132565	12.189	
Chlorobenzene-d5	998058	15.607	1071316	15.632	
1,4-Dichlorobenzene-d4	538843	18.573	548927	18.606	

* Values outside of QC limits

aw skills

ORGANIC ANALYSIS DATA SHEET

EPA 8260B

IR78-GW10D-15A

Laboratory: ENCO Orlando SDG: A501570-CTOWE86
 Client: CH2M Hill, Inc. (CH025) Project: CTO-WE86 MCB Camp Lejeune Site 78
 Matrix: Ground Water Laboratory ID: A501570-14 File ID: 5CO012.D
 Sampled: 03/14/15 14:20 Prepared: 03/20/15 00:00 Analyzed: 03/20/15 11:37
 Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL
 Batch: 5C20013 Sequence: AA33073 Calibration: 1503031 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	LOD	LOQ
75-01-4	Vinyl chloride	1	<1.0	U	0.71	1.0	2.0
75-35-4	1,1-Dichloroethene	1	<1.0	UQ	0.94	1.0	2.0
75-09-2	Methylene Chloride	1	<5.0	UQ	2.0	5.0	10
156-60-5	trans-1,2-Dichloroethene	1	<1.0	UQ	0.73	1.0	2.0
156-59-2	cis-1,2-Dichloroethene	1	<1.0	UQ	0.53	1.0	2.0
75-34-3	1,1-Dichloroethane	1	<1.0	UQ	0.62	1.0	2.0
107-06-2	1,2-Dichloroethane	1	<1.0	U	0.63	1.0	2.0
71-43-2	Benzene	1	<1.0	U	0.71	1.0	2.0
79-01-6	Trichloroethene	1	<1.0	UQ	0.89	1.0	2.0
108-88-3	Toluene	1	<1.0	U	0.72	1.0	2.0
127-18-4	Tetrachloroethene	1	<1.0	U	0.76	1.0	2.0
100-41-4	Ethylbenzene	1	<1.0	U	0.69	1.0	2.0
98-82-8	Isopropylbenzene	1	<1.0	U	0.67	1.0	2.0
96-12-8	1,2-Dibromo-3-chloropropane	1	<5.0	U	0.96	5.0	10
1330-20-7	Xylenes (Total)	1	<2.0	U	1.3	2.0	4.0
540-59-0	1,2-Dichloroethene (Total)	1	<1.0	U	0.73	1.0	2.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	60	120	80 - 119	*
Toluene-d8	50.0	57	114	89 - 112	*
4-Bromofluorobenzene	50.0	53	106	85 - 114	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	610110	11.482	591935	11.466	
1,4-Difluorobenzene	1203345	12.181	1054899	12.173	
Chlorobenzene-d5	1619205	15.615	1238789	15.607	
1,4-Dichlorobenzene-d4	943582	18.582	673258	18.574	

* Values outside of QC limits

aw 5/21/15

ORGANIC ANALYSIS DATA SHEET

EPA 8260B

IR78-GW11-15A

Laboratory: ENCO Orlando SDG: A501570-CTOWE86
 Client: CH2M Hill, Inc. (CH025) Project: CTO-WE86 MCB Camp Lejeune Site 78
 Matrix: Ground Water Laboratory ID: A501570-15 File ID: 5CO013.D
 Sampled: 03/14/15 09:25 Prepared: 03/20/15 00:00 Analyzed: 03/20/15 12:08
 Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL
 Batch: 5C20013 Sequence: AA33073 Calibration: 1503031 Instrument: OVGCMS5

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	LOD	LOQ
75-01-4	Vinyl chloride	1	<1.0	U	0.71	1.0	2.0
75-35-4	1,1-Dichloroethene	1	<1.0	UQ	0.94	1.0	2.0
75-09-2	Methylene Chloride	1	<5.0	UQ	2.0	5.0	10
156-60-5	trans-1,2-Dichloroethene	1	<1.0	UQ	0.73	1.0	2.0
156-59-2	cis-1,2-Dichloroethene	1	<1.0	UQ	0.53	1.0	2.0
75-34-3	1,1-Dichloroethane	1	<1.0	UQ	0.62	1.0	2.0
107-06-2	1,2-Dichloroethane	1	<1.0	U	0.63	1.0	2.0
71-43-2	Benzene	1	<1.0	U	0.71	1.0	2.0
79-01-6	Trichloroethene	1	<1.0	UQ	0.89	1.0	2.0
108-88-3	Toluene	1	<1.0	U	0.72	1.0	2.0
127-18-4	Tetrachloroethene	1	<1.0	U	0.76	1.0	2.0
100-41-4	Ethylbenzene	1	<1.0	U	0.69	1.0	2.0
98-82-8	Isopropylbenzene	1	<1.0	U	0.67	1.0	2.0
96-12-8	1,2-Dibromo-3-chloropropane	1	<5.0	U	0.96	5.0	10
1330-20-7	Xylenes (Total)	1	<2.0	U	1.3	2.0	4.0
540-59-0	1,2-Dichloroethene (Total)	1	<1.0	U	0.73	1.0	2.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	59	119	80 - 119	
Toluene-d8	50.0	56	113	89 - 112	*
4-Bromofluorobenzene	50.0	53	105	85 - 114	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	628930	11.482	591935	11.466	
1,4-Difluorobenzene	1230502	12.181	1054899	12.173	
Chlorobenzene-d5	1657691	15.615	1238789	15.607	
1,4-Dichlorobenzene-d4	973045	18.582	673258	18.574	

* Values outside of QC limits

mw 5/21/15

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ORGANIC ANALYSIS DATA SHEET

IR78-GW11D-15A

EPA 8260B

Laboratory: ENCO Orlando SDG: A501570-CTOWE86
 Client: CH2M Hill, Inc. (CH025) Project: CTO-WE86 MCB Camp Lejeune Site 78
 Matrix: Ground Water Laboratory ID: A501570-16 File ID: 5CO014.D
 Sampled: 03/14/15 09:30 Prepared: 03/20/15 00:00 Analyzed: 03/20/15 12:39
 Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL
 Batch: 5C20013 Sequence: AA33073 Calibration: 1503031 Instrument: OVGCM55

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	LOD	LOQ
75-01-4	Vinyl chloride	1	<1.0	U	0.71	1.0	2.0
75-35-4	1,1-Dichloroethene	1	<1.0	UQ	0.94	1.0	2.0
75-09-2	Methylene Chloride	1	<5.0	UQ	2.0	5.0	10
156-60-5	trans-1,2-Dichloroethene	1	<1.0	UQ	0.73	1.0	2.0
156-59-2	cis-1,2-Dichloroethene	1	<1.0	UQ	0.53	1.0	2.0
75-34-3	1,1-Dichloroethane	1	<1.0	UQ	0.62	1.0	2.0
107-06-2	1,2-Dichloroethane	1	<1.0	U	0.63	1.0	2.0
71-43-2	Benzene	1	<1.0	U	0.71	1.0	2.0
79-01-6	Trichloroethene	1	<1.0	UQ	0.89	1.0	2.0
108-88-3	Toluene	1	<1.0	U	0.72	1.0	2.0
127-18-4	Tetrachloroethene	1	<1.0	U	0.76	1.0	2.0
100-41-4	Ethylbenzene	1	<1.0	U	0.69	1.0	2.0
98-82-8	Isopropylbenzene	1	<1.0	U	0.67	1.0	2.0
96-12-8	1,2-Dibromo-3-chloropropane	1	<5.0	U	0.96	5.0	10
1330-20-7	Xylenes (Total)	1	<2.0	U	1.3	2.0	4.0
540-59-0	1,2-Dichloroethene (Total)	1	<1.0	U	0.73	1.0	2.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	59	118	80 - 119	
Toluene-d8	50.0	56	111	89 - 112	
4-Bromofluorobenzene	50.0	52	104	85 - 114	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	615998	11.482	591935	11.466	
1,4-Difluorobenzene	1213310	12.181	1054899	12.173	
Chlorobenzene-d5	1623524	15.615	1238789	15.607	
1,4-Dichlorobenzene-d4	947949	18.582	673258	18.574	

* Values outside of QC limits

NW 5/21/15

17

ORGANIC ANALYSIS DATA SHEET
EPA 8260B

IR78-GW42-15A

Laboratory: ENCO Orlando SDG: A501570-CTOWE86
 Client: CH2M Hill, Inc. (CH025) Project: CTO-WE86 MCB Camp Lejeune Site 78
 Matrix: Ground Water Laboratory ID: A501570-17 File ID: 2CS019.D
 Sampled: 03/14/15 12:40 Prepared: 03/24/15 00:00 Analyzed: 03/24/15 15:09
 Solids: Preparation: EPA 5030B_MS Initial/Final: 2 mL / 5 mL
 Batch: 5C24029 Sequence: AA33119 Calibration: 1502029 Instrument: OVCMS2

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	LOD	LOQ
75-01-4	Vinyl chloride	1	40		1.8	2.5	5.0
75-35-4	1,1-Dichloroethene	1	2.9	J	2.4	2.5	5.0
75-09-2	Methylene Chloride	1	<12	U	5.0	12	25
156-60-5	trans-1,2-Dichloroethene	1	<2.5	U	1.8	2.5	5.0
156-59-2	cis-1,2-Dichloroethene	1	180 <i>J</i>	<i>Q</i>	1.3	2.5	5.0
75-34-3	1,1-Dichloroethane	1	67		1.6	2.5	5.0
107-06-2	1,2-Dichloroethane	1	<2.5	U	1.6	2.5	5.0
71-43-2	Benzene	1	1.8	J	1.8	2.5	5.0
79-01-6	Trichloroethene	1	28		2.2	2.5	5.0
108-88-3	Toluene	1	2.5	J	1.8	2.5	5.0
127-18-4	Tetrachloroethene	1	<2.5	U	1.9	2.5	5.0
100-41-4	Ethylbenzene	1	<2.5	U	1.7	2.5	5.0
98-82-8	Isopropylbenzene	1	<2.5	U	1.7	2.5	5.0
96-12-8	1,2-Dibromo-3-chloropropane	1	<12	U <i>Q</i>	2.4	12	25
1330-20-7	Xylenes (Total)	1	<5.0	U	3.2	5.0	10
540-59-0	1,2-Dichloroethene (Total)	1	180		1.8	2.5	5.0

MSL

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	125	120	96	80 - 119	
Toluene-d8	125	110	90	89 - 112	
4-Bromofluorobenzene	125	120	93	85 - 114	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	373104	10.98	360813	11	
1,4-Difluorobenzene	650247	11.56	613683	11.57	
Chlorobenzene-d5	566969	14.23	591959	14.25	
1,4-Dichlorobenzene-d4	242293	16.51	257796	16.52	

* Values outside of QC limits

msl/2/15

ORGANIC ANALYSIS DATA SHEET
EPA 8260B

18
IR78-GW49-15A

Laboratory: ENCO Orlando SDG: A501570-CTOWE86
 Client: CH2M Hill, Inc. (CH025) Project: CTO-WE86 MCB Camp Lejeune Site 78
 Matrix: Ground Water Laboratory ID: A501570-18 File ID: 1CS011.D
 Sampled: 03/13/15 08:40 Prepared: 03/24/15 00:00 Analyzed: 03/24/15 11:43
 Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL
 Batch: 5C24024 Sequence: AA33117 Calibration: 1503088 Instrument: OVGCMS1

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	LOD	LOQ
75-01-4	Vinyl chloride	1	<1.0	U	0.71	1.0	2.0
75-35-4	1,1-Dichloroethene	1	<1.0	U	0.94	1.0	2.0
75-09-2	Methylene Chloride	1	5.0 2.2 u	U	2.0	5.0	10
156-60-5	trans-1,2-Dichloroethene	1	<1.0	U	0.73	1.0	2.0
156-59-2	cis-1,2-Dichloroethene	1	<1.0	U	0.53	1.0	2.0
75-34-3	1,1-Dichloroethane	1	<1.0	U	0.62	1.0	2.0
107-06-2	1,2-Dichloroethane	1	<1.0	U	0.63	1.0	2.0
71-43-2	Benzene	1	<1.0	U	0.71	1.0	2.0
79-01-6	Trichloroethene	1	<1.0	U	0.89	1.0	2.0
108-88-3	Toluene	1	<1.0	U	0.72	1.0	2.0
127-18-4	Tetrachloroethene	1	<1.0	U	0.76	1.0	2.0
100-41-4	Ethylbenzene	1	<1.0	U	0.69	1.0	2.0
98-82-8	Isopropylbenzene	1	<1.0	U	0.67	1.0	2.0
96-12-8	1,2-Dibromo-3-chloropropane	1	<5.0	U	0.96	5.0	10
1330-20-7	Xylenes (Total)	1	<2.0	U	1.3	2.0	4.0
540-59-0	1,2-Dichloroethene (Total)	1	<1.0	U	0.73	1.0	2.0

MBL

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	41	81	80 - 119	
Toluene-d8	50.0	47	94	89 - 112	
4-Bromofluorobenzene	50.0	44	88	85 - 114	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	174754	11.46	189013	11.47	
1,4-Difluorobenzene	311756	12.03	339774	12.04	
Chlorobenzene-d5	260485	14.71	244965	14.72	
1,4-Dichlorobenzene-d4	79973	17.08	91047	17.1	

* Values outside of QC limits

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ORGANIC ANALYSIS DATA SHEET

IR78-GW50-15A

EPA 8260B

Laboratory: ENCO Orlando SDG: A501570-CTOWE86
 Client: CH2M Hill, Inc. (CH025) Project: CTO-WE86 MCB Camp Lejeune Site 78
 Matrix: Ground Water Laboratory ID: A501570-19 File ID: 1CS012.D
 Sampled: 03/13/15 16:10 Prepared: 03/24/15 00:00 Analyzed: 03/24/15 12:12
 Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL
 Batch: 5C24024 Sequence: AA33117 Calibration: 1503088 Instrument: OVGCMS1

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	LOD	LOQ
75-01-4	Vinyl chloride	1	<1.0 <i>UJ</i>	U	0.71	1.0	2.0
75-35-4	1,1-Dichloroethene	1	<1.0	U	0.94	1.0	2.0
75-09-2	Methylene Chloride	1	<5.0	U	2.0	5.0	10
156-60-5	trans-1,2-Dichloroethene	1	<1.0	U	0.73	1.0	2.0
156-59-2	cis-1,2-Dichloroethene	1	<1.0	U	0.53	1.0	2.0
75-34-3	1,1-Dichloroethane	1	<1.0	U	0.62	1.0	2.0
107-06-2	1,2-Dichloroethane	1	<1.0	U	0.63	1.0	2.0
71-43-2	Benzene	1	<1.0	U	0.71	1.0	2.0
79-01-6	Trichloroethene	1	<1.0	U	0.89	1.0	2.0
108-88-3	Toluene	1	<1.0	U	0.72	1.0	2.0
127-18-4	Tetrachloroethene	1	<1.0	U	0.76	1.0	2.0
100-41-4	Ethylbenzene	1	<1.0	U	0.69	1.0	2.0
98-82-8	Isopropylbenzene	1	<1.0	U	0.67	1.0	2.0
96-12-8	1,2-Dibromo-3-chloropropane	1	<5.0	U	0.96	5.0	10
1330-20-7	Xylenes (Total)	1	<2.0	U	1.3	2.0	4.0
540-59-0	1,2-Dichloroethene (Total)	1	<1.0	U	0.73	1.0	2.0

SSL

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	42	84	80 - 119	
Toluene-d8	50.0	41	82	89 - 112	*
4-Bromofluorobenzene	50.0	45	90	85 - 114	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	169630	11.45	189013	11.47	
1,4-Difluorobenzene	315690	12.03	339774	12.04	
Chlorobenzene-d5	269068	14.71	244965	14.72	
1,4-Dichlorobenzene-d4	89346	17.09	91047	17.1	

* Values outside of QC limits

mw status

ORGANIC ANALYSIS DATA SHEET
EPA 8260B

19RE
IR78-GW50-15A

Laboratory: ENCO Orlando SDG: A501570-CTOWE86
 Client: CH2M Hill, Inc. (CH025) Project: CTO-WE86 MCB Camp Lejeune Site 78
 Matrix: Ground Water Laboratory ID: A501570-19RE1 File ID: 5D2016.D
 Sampled: 03/13/15 16:10 Prepared: 04/02/15 00:00 Analyzed: 04/02/15 15:41
 Solids: Preparation: EPA 5030B MS Initial/Final: 5 mL / 5 mL
 Batch: 5D02011 Sequence: AA33267 Calibration: 1503091 Instrument: OVGCMSS5

Use original results

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	BL	LOD	LOQ
75-01-4	Vinyl chloride	1	<1.0 <i>UJ</i>	UQ	0.71	1.0	2.0
75-35-4	1,1-Dichloroethene	1	<1.0	UQ	0.94	1.0	2.0
75-09-2	Methylene Chloride	1	<5.0	UQ	2.0	5.0	10
156-60-5	trans-1,2-Dichloroethene	1	<1.0	UQ	0.73	1.0	2.0
156-59-2	cis-1,2-Dichloroethene	1	<1.0	UQ	0.53	1.0	2.0
75-34-3	1,1-Dichloroethane	1	<1.0	UQ	0.62	1.0	2.0
107-06-2	1,2-Dichloroethane	1	<1.0	UQ	0.63	1.0	2.0
71-43-2	Benzene	1	<1.0	UQ	0.71	1.0	2.0
79-01-6	Trichloroethene	1	<1.0	UQ	0.89	1.0	2.0
108-88-3	Toluene	1	<1.0	UQ	0.72	1.0	2.0
127-18-4	Tetrachloroethene	1	<1.0	UQ	0.76	1.0	2.0
100-41-4	Ethylbenzene	1	<1.0	UQ	0.69	1.0	2.0
98-82-8	Isopropylbenzene	1	<1.0	UQ	0.67	1.0	2.0
96-12-8	1,2-Dibromo-3-chloropropane	1	<5.0	UQ	0.96	5.0	10
1330-20-7	Xylenes (Total)	1	<2.0	UQ	1.3	2.0	4.0
540-59-0	1,2-Dichloroethene (Total)	1	<1.0	UQ	0.73	1.0	2.0

exclude

HT

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	60	120	80 - 119	*
Toluene-d8	50.0	55	110	89 - 112	
4-Bromofluorobenzene	50.0	49	97	85 - 114	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	492058	11.474	646118	11.491	
1,4-Difluorobenzene	945846	12.173	1132565	12.189	
Chlorobenzene-d5	1004594	15.607	1071316	15.632	
1,4-Dichlorobenzene-d4	551283	18.574	548927	18.606	

* Values outside of QC limits

MW 5/2/15

ORGANIC ANALYSIS DATA SHEET

EPA 8260B

IR78-GW52R-15A

Laboratory: ENCO Orlando SDG: A501570-CTOWE86
 Client: CH2M Hill, Inc. (CH025) Project: CTO-WE86 MCB Camp Lejeune Site 78
 Matrix: Ground Water Laboratory ID: A501570-20 File ID: 1CS013.D
 Sampled: 03/13/15 11:10 Prepared: 03/24/15 00:00 Analyzed: 03/24/15 12:41
 Solids: Preparation: EPA 5030B_MS Initial/Final: 5 mL / 5 mL
 Batch: 5C24024 Sequence: AA33117 Calibration: 1503088 Instrument: OVGCMS1

CAS NO.	COMPOUND	DILUTION	CONC. (ug/L)	Q	DL	LOD	LOQ
75-01-4	Vinyl chloride	1	<1.0	U	0.71	1.0	2.0
75-35-4	1,1-Dichloroethene	1	<1.0	U	0.94	1.0	2.0
75-09-2	Methylene Chloride	1	<5.0	U Q	2.0	5.0	10
156-60-5	trans-1,2-Dichloroethene	1	<1.0	U	0.73	1.0	2.0
156-59-2	cis-1,2-Dichloroethene	1	1.9	J	0.53	1.0	2.0
75-34-3	1,1-Dichloroethane	1	<1.0	U	0.62	1.0	2.0
107-06-2	1,2-Dichloroethane	1	<1.0	U	0.63	1.0	2.0
71-43-2	Benzene	1	<1.0	U	0.71	1.0	2.0
79-01-6	Trichloroethene	1	<1.0	U Q	0.89	1.0	2.0
108-88-3	Toluene	1	<1.0	U	0.72	1.0	2.0
127-18-4	Tetrachloroethene	1	<1.0	U	0.76	1.0	2.0
100-41-4	Ethylbenzene	1	<1.0	U	0.69	1.0	2.0
98-82-8	Isopropylbenzene	1	<1.0	U	0.67	1.0	2.0
96-12-8	1,2-Dibromo-3-chloropropane	1	<5.0	U Q	0.96	5.0	10
1330-20-7	Xylenes (Total)	1	<2.0	U	1.3	2.0	4.0
540-59-0	1,2-Dichloroethene (Total)	1	1.9	J	0.73	1.0	2.0

SYSTEM MONITORING COMPOUND	ADDED (ug/L)	CONC (ug/L)	% REC	QC LIMITS	Q
Dibromofluoromethane	50.0	43	86	80 - 119	
Toluene-d8	50.0	51	101	89 - 112	
4-Bromofluorobenzene	50.0	45	89	85 - 114	

INTERNAL STANDARD	AREA	RT	REF AREA	REF RT	Q
Pentafluorobenzene	166043	11.46	189013	11.47	
1,4-Difluorobenzene	308618	12.03	339774	12.04	
Chlorobenzene-d5	271450	14.71	244965	14.72	
1,4-Dichlorobenzene-d4	82937	17.09	91047	17.1	

* Values outside of QC limits

mw skrlis

INORGANIC ANALYSIS DATA SHEET
EPA 6020A

4
IR78-GW113-15A

Laboratory: ENCO Orlando

SDG: A501570-CTOWE86

Client: CH2M Hill, Inc. (CH025)

Project: CTO-WE86 MCB Camp Lejeune Site 78

Matrix: Ground Water

Laboratory ID: A501570-04

File ID: 032715_RP1_Fe_LTZ-047

Sampled: 03/15/15 10:30

Prepared: 03/19/15 14:24

Analyzed: 03/27/15 11:49

Solids: 0.00

Preparation: EPA 3005A

Initial/Final: 50 mL / 50 mL

Batch: 5C19032

Sequence: AA33175

Calibration: 1503102

Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7429-90-5	Aluminum <i>exclude</i>	3310	1	E	6.80	25.0	45.0	EPA 6020A
7440-36-0	Antimony	<0.440	1	U	0.110	0.440	0.500	EPA 6020A
7440-38-2	Arsenic	<10.0	1	U	0.610	10.0	15.0	EPA 6020A
7440-39-3	Barium	55.0	1		2.00	8.00	10.0	EPA 6020A
7440-41-7	Beryllium	0.525	1	J	0.0940	0.370	0.800	EPA 6020A
7440-43-9	Cadmium	<4.00	1	U	0.110	4.00	8.00	EPA 6020A
7440-70-2	Calcium <i>exclude</i>	53400	1	E	36.0	1200	1750	EPA 6020A
7440-47-3	Chromium	0.610	1	J	0.450	3.00	5.00	EPA 6020A
7440-48-4	Cobalt	0.437	1	J	0.210	0.840	1.00	EPA 6020A
7440-50-8	Copper	<i>0.880</i> 0.370 u	1	J	0.220	0.880	1.50	EPA 6020A
7439-89-6	Iron <i>exclude</i>	214 J	1	J	3.80	15.0	25.0	EPA 6020A
7439-92-1	Lead	1.28	1		0.160	0.600	1.00	EPA 6020A
7439-95-4	Magnesium	3540	1		30.0	120	200	EPA 6020A
7439-96-5	Manganese	15.6	1		0.320	1.28	2.00	EPA 6020A
7440-02-0	Nickel	1.55 u	1	J	0.320	1.20	2.00	EPA 6020A
7440-09-7	Potassium	1550 J	1	J	48.0	1750	3500	EPA 6020A
7782-49-2	Selenium	2.59	1	J	0.650	2.60	4.00	EPA 6020A
7440-22-4	Silver	<0.116	1	U	0.0290	0.116	0.225	EPA 6020A
7440-23-5	Sodium <i>exclude</i>	10200 J	1	EQ	32.0	120	200	EPA 6020A
7440-28-0	Thallium	0.0583	1	J	0.0580	0.230	0.400	EPA 6020A
7440-62-2	Vanadium	<0.800	1	U	0.200	0.800	1.00	EPA 6020A
7440-66-6	Zinc	<i>6.40</i> 1.62 u	1	J	1.60	6.40	10.0	EPA 6020A

EBL

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LRE

INORGANIC ANALYSIS DATA SHEET

IR78-GW113-15A

EPA 6020A

Laboratory: ENCO Orlando

SDG: A501570-CTOWE86

Client: CH2M Hill, Inc. (CH025)

Project: CTO-WE86 MCB Camp Lejeune Site 78

Matrix: Ground Water

Laboratory ID: A501570-04RE1

File ID: 032715_RP1_Fe_LTZ-048

Sampled: 03/15/15 10:30

Prepared: 03/19/15 14:24

Analyzed: 03/27/15 11:54

Solids: 0.00

Preparation: EPA 3005A

Initial/Final: 50 mL / 50 mL

Batch: 5C19032

Sequence: AA33175

Calibration: 1503102

Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7429-90-5	Aluminum	3500	10	IP	68.0	250	450	EPA 6020A
7440-70-2	Calcium	56400	10	IP	360	12000	17500	EPA 6020A
7439-89-6	Iron	206	1		3.80	15.0	25.0	EPA 6020A
7440-23-5	Sodium	10200 J	10	DE	320	1200	2000	EPA 6020A

CCH

nw slz 1/15

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

IR78-GW114-15A

Laboratory: ENCO Orlando

SDG: A501570-CTOWE86

Client: CH2M Hill, Inc. (CH025)

Project: CTO-WE86 MCB Camp Lejeune Site 78

Matrix: Ground Water

Laboratory ID: A501570-05

File ID: 032715_RP1_Fe_LTZ-049

Sampled: 03/15/15 12:00

Prepared: 03/19/15 14:24

Analyzed: 03/27/15 11:57

Solids: 0.00

Preparation: EPA 3005A

Initial/Final: 50 mL / 50 mL

Batch: 5C19032

Sequence: AA33175

Calibration: 1503102

Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7429-90-5	Aluminum <i>exclude</i>	3090	1	EQ	6.80	25.0	45.0	EPA 6020A
7440-36-0	Antimony	0.354	1	J	0.110	0.440	0.500	EPA 6020A
7440-38-2	Arsenic	0.715	1	J	0.610	10.0	15.0	EPA 6020A
7440-39-3	Barium	358	1		2.00	8.00	10.0	EPA 6020A
7440-41-7	Beryllium	0.367	1	JQ	0.0940	0.370	0.800	EPA 6020A
7440-43-9	Cadmium	0.540	1	J	0.110	4.00	8.00	EPA 6020A
7440-70-2	Calcium <i>exclude</i>	18000	1	EQ	36.0	1200	1750	EPA 6020A
7440-47-3	Chromium	1.70	1	J	0.450	3.00	5.00	EPA 6020A
7440-48-4	Cobalt	3.65	1		0.210	0.840	1.00	EPA 6020A
7440-50-8	Copper	1.10 u	1	J	0.220	0.880	1.50	EPA 6020A <i>EBL</i>
7439-89-6	Iron <i>exclude</i>	881 J	1	EQ	3.80	15.0	25.0	EPA 6020A <i>CCH</i>
7439-92-1	Lead	1.55	1		0.160	0.600	1.00	EPA 6020A
7439-95-4	Magnesium <i>exclude</i>	11900	1	EQ	30.0	120	200	EPA 6020A
7439-96-5	Manganese	38.4	1		0.320	1.28	2.00	EPA 6020A
7440-02-0	Nickel	3.05 u	1		0.320	1.20	2.00	EPA 6020A <i>EBL</i>
7440-09-7	Potassium <i>exclude</i>	1810 J	1	IQ	48.0	1750	3500	EPA 6020A <i>MSH</i>
7782-49-2	Selenium	<2.60	1	U	0.650	2.60	4.00	EPA 6020A
7440-22-4	Silver	<0.116	1	U	0.0290	0.116	0.225	EPA 6020A
7440-23-5	Sodium <i>exclude</i>	36300 J	1	EQ	32.0	120	200	EPA 6020A <i>MSH</i>
7440-28-0	Thallium	<0.230	1	U	0.0580	0.230	0.400	EPA 6020A
7440-62-2	Vanadium	<0.800	1	UQ	0.200	0.800	1.00	EPA 6020A
7440-66-6	Zinc	86.9	1		1.60	6.40	10.0	EPA 6020A

MSH 2/15

5RE

INORGANIC ANALYSIS DATA SHEET
EPA 6020A

IR78-GW114-15A

Laboratory: ENCO Orlando

SDG: A501570-CTOWE86

Client: CH2M Hill, Inc. (CH025)

Project: CTO-WE86 MCB Camp Lejeune Site 78

Matrix: Ground Water

Laboratory ID: A501570-05RE1

File ID: 032715_RP1_Fe_LTZ-050

Sampled: 03/15/15 12:00

Prepared: 03/19/15 14:24

Analyzed: 03/27/15 12:01

Solids: 0.00

Preparation: EPA 3005A

Initial/Final: 50 mL / 50 mL

Batch: 5C19032

Sequence: AA33175

Calibration: 1503102

Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7429-90-5	Aluminum	3470	10	✓	68.0	250	450	EPA 6020A
7440-41-7	Beryllium <i>exclude</i>	<3.70	10	UD	0.940	3.70	8.00	EPA 6020A
7440-70-2	Calcium	21200	10	✓	360	12000	17500	EPA 6020A
7439-89-6	Iron	848	10	✓	38.0	150	250	EPA 6020A
7439-95-4	Magnesium	13800	10	✓	300	1200	2000	EPA 6020A
7440-09-7	Potassium	1680	10	✓	480	17500	35000	EPA 6020A
7440-23-5	Sodium	42700 J	10	✓	320	1200	2000	EPA 6020A
7440-62-2	Vanadium <i>exclude</i>	<8.00	10	UD	2.00	8.00	10.0	EPA 6020A

CCH

03/27/15

INORGANIC ANALYSIS DATA SHEET
EPA 6020A

IR78-GW04-1-15A

Laboratory: ENCO Orlando

SDG: A501570-CTOWE86

Client: CH2M Hill, Inc. (CH025)

Project: CTO-WE86 MCB Camp Lejeune Site 78

Matrix: Ground Water

Laboratory ID: A501570-11

File ID: 032715_RP1_Fe_LTZ-082

Sampled: 03/15/15 11:30

Prepared: 03/19/15 14:24

Analyzed: 03/27/15 14:06

Solids: 0.00

Preparation: EPA 3005A

Initial/Final: 50 mL / 50 mL

Batch: 5C19032

Sequence: AA33175

Calibration: 1503102

Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7429-90-5	Aluminum <i>exclude</i>	18100	10	DE	68.0	250	450	EPA 6020A
7440-36-0	Antimony	<4.40	10	UP	1.10	4.40	5.00	EPA 6020A
7440-38-2	Arsenic	9.10	10	JP	6.10	100	150	EPA 6020A
7440-39-3	Barium	169	10	JP	20.0	80.0	100	EPA 6020A
7440-41-7	Beryllium	4.96	10	JP	0.940	3.70	8.00	EPA 6020A
7440-43-9	Cadmium	<40.0	10	UP	1.10	40.0	80.0	EPA 6020A
7440-70-2	Calcium	34300	10	JP	360	12000	17500	EPA 6020A
7440-47-3	Chromium	47.6	10	JP	4.50	30.0	50.0	EPA 6020A
7440-48-4	Cobalt	7.96	10	JP	2.10	8.40	10.0	EPA 6020A
7440-50-8	Copper	11.4 u	10	JP	2.20	8.80	15.0	EPA 6020A
7439-89-6	Iron <i>exclude</i>	30500 J	10	DE	38.0	150	250	EPA 6020A
7439-92-1	Lead	21.9	10	JP	1.60	6.00	10.0	EPA 6020A
7439-95-4	Magnesium	5540	10	JP	300	1200	2000	EPA 6020A
7439-96-5	Manganese	177	10	JP	3.20	12.8	20.0	EPA 6020A
7440-02-0	Nickel	20.0 u	10	JP	3.20	12.0	20.0	EPA 6020A
7440-09-7	Potassium	7110 J	10	JP	480	17500	35000	EPA 6020A
7782-49-2	Selenium	<26.0	10	UP	6.50	26.0	40.0	EPA 6020A
7440-22-4	Silver	<1.16	10	UP	0.290	1.16	2.25	EPA 6020A
7440-23-5	Sodium	7480 J	10	JP	320	1200	2000	EPA 6020A
7440-28-0	Thallium	<2.30	10	UP	0.580	2.30	4.00	EPA 6020A
7440-62-2	Vanadium	52.3	10	JP	2.00	8.00	10.0	EPA 6020A
7440-66-6	Zinc	68.9 u	10	JP	16.0	64.0	100	EPA 6020A

EBL
CCH

EBL
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MSH

EBL

msw 5/2/15

11RE

INORGANIC ANALYSIS DATA SHEET
EPA 6020A

IR78-GW04-1-15A

Laboratory: ENCO Orlando

SDG: A501570-CTOWE86

Client: CH2M Hill, Inc. (CH025)

Project: CTO-WE86 MCB Camp Lejeune Site 78

Matrix: Ground Water

Laboratory ID: A501570-11RE1

File ID: 032715_RP1_Fe_LTZ-084

Sampled: 03/15/15 11:30

Prepared: 03/19/15 14:24

Analyzed: 03/27/15 14:13

Solids: 0.00

Preparation: EPA 3005A

Initial/Final: 50 mL / 50 mL

Batch: 5C19032

Sequence: AA33175

Calibration: 1503102

Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7429-90-5	Aluminum	19200	50	D	340	1250	2250	EPA 6020A
7439-89-6	Iron	29700	50	D	190	750	1250	EPA 6020A

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INORGANIC ANALYSIS DATA SHEET
EPA 6020A

IR78-GW10-15A

Laboratory: ENCO Orlando

SDG: A501570-CTOWE86

Client: CH2M Hill, Inc. (CH025)

Project: CTO-WE86 MCB Camp Lejeune Site 78

Matrix: Ground Water

Laboratory ID: A501570-13

File ID: 032715 RP1 Fe LTZ-062

Sampled: 03/14/15 14:15

Prepared: 03/19/15 14:24

Analyzed: 03/27/15 12:50

Solids: 0.00

Preparation: EPA 3005A

Initial/Final: 50 mL / 50 mL

Batch: 5C19032

Sequence: AA33175

Calibration: 1503102

Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7429-90-5	Aluminum	40.2	1	J	6.80	25.0	45.0	EPA 6020A
7440-36-0	Antimony	0.219	1	J	0.110	0.440	0.500	EPA 6020A
7440-38-2	Arsenic	<10.0	1	U	0.610	10.0	15.0	EPA 6020A
7440-39-3	Barium	8.06	1	J	2.00	8.00	10.0	EPA 6020A
7440-41-7	Beryllium	<0.370	1	U	0.0940	0.370	0.800	EPA 6020A
7440-43-9	Cadmium	<4.00	1	U	0.110	4.00	8.00	EPA 6020A
7440-70-2	Calcium <i>exclude</i>	52100	1	E	36.0	1200	1750	EPA 6020A
7440-47-3	Chromium	<3.00	1	U	0.450	3.00	5.00	EPA 6020A
7440-48-4	Cobalt	<0.840	1	U	0.210	0.840	1.00	EPA 6020A
7440-50-8	Copper	0.880 0.225 U	1	J	0.220	0.880	1.50	EPA 6020A
7439-89-6	Iron	14.2 J	1	J	3.80	15.0	25.0	EPA 6020A
7439-92-1	Lead	<0.600	1	U	0.160	0.600	1.00	EPA 6020A
7439-95-4	Magnesium	1430	1		30.0	120	200	EPA 6020A
7439-96-5	Manganese	1.28 0.615 U	1	✓	0.320	1.28	2.00	EPA 6020A
7440-02-0	Nickel	1.20 0.595 U	1	✓	0.320	1.20	2.00	EPA 6020A
7440-09-7	Potassium	592 J	1	J	48.0	1750	3500	EPA 6020A
7782-49-2	Selenium	5.07	1		0.650	2.60	4.00	EPA 6020A
7440-22-4	Silver	<0.116	1	U	0.0290	0.116	0.225	EPA 6020A
7440-23-5	Sodium	3100 J	1		32.0	120	200	EPA 6020A
7440-28-0	Thallium	<0.230	1	U	0.0580	0.230	0.400	EPA 6020A
7440-62-2	Vanadium	0.279	1	J	0.200	0.800	1.00	EPA 6020A
7440-66-6	Zinc	<6.40	1	U	1.60	6.40	10.0	EPA 6020A

EBL

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13RE

INORGANIC ANALYSIS DATA SHEET
EPA 6020A

IR78-GW10-15A

Laboratory: ENCO Orlando

SDG: A501570-CTOWE86

Client: CH2M Hill, Inc. (CH025)

Project: CTO-WE86 MCB Camp Lejeune Site 78

Matrix: Ground Water

Laboratory ID: A501570-13RE1

File ID: 032715_RP1_Fe_LTZ-063

Sampled: 03/14/15 14:15

Prepared: 03/19/15 14:24

Analyzed: 03/27/15 12:53

Solids: 0.00

Preparation: EPA 3005A

Initial/Final: 50 mL / 50 mL

Batch: 5C19032

Sequence: AA33175

Calibration: 1503102

Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7440-70-2	Calcium	53900	10	P	360	12000	17500	EPA 6020A

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INORGANIC ANALYSIS DATA SHEET
EPA 6020A

14
IR78-GW10D-15A

Laboratory: ENCO Orlando

SDG: A501570-CTOWE86

Client: CH2M Hill, Inc. (CH025)

Project: CTO-WE86 MCB Camp Lejeune Site 78

Matrix: Ground Water

Laboratory ID: A501570-14

File ID: 032715_RP1_Fe_LTZ-064

Sampled: 03/14/15 14:20

Prepared: 03/19/15 14:24

Analyzed: 03/27/15 12:57

Solids: 0.00

Preparation: EPA 3005A

Initial/Final: 50 mL / 50 mL

Batch: 5C19032

Sequence: AA33175

Calibration: 1503102

Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7429-90-5	Aluminum	40.5	1	J	6.80	25.0	45.0	EPA 6020A
7440-36-0	Antimony	0.220	1	J	0.110	0.440	0.500	EPA 6020A
7440-38-2	Arsenic	<10.0	1	U	0.610	10.0	15.0	EPA 6020A
7440-39-3	Barium	7.99	1	J	2.00	8.00	10.0	EPA 6020A
7440-41-7	Beryllium	<0.370	1	U	0.0940	0.370	0.800	EPA 6020A
7440-43-9	Cadmium	<4.00	1	U	0.110	4.00	8.00	EPA 6020A
7440-70-2	Calcium <i>exclude</i>	51600	1	E	36.0	1200	1750	EPA 6020A
7440-47-3	Chromium	<3.00	1	U	0.450	3.00	5.00	EPA 6020A
7440-48-4	Cobalt	<0.840	1	U	0.210	0.840	1.00	EPA 6020A
7440-50-8	Copper	0.880 <i>0.880</i>	1	J	0.220	0.880	1.50	EPA 6020A
7439-89-6	Iron <i>exclude</i>	16.1 <i>J</i>	1	J	3.80	15.0	25.0	EPA 6020A
7439-92-1	Lead	<0.600	1	U	0.160	0.600	1.00	EPA 6020A
7439-95-4	Magnesium	1410	1		30.0	120	200	EPA 6020A
7439-96-5	Manganese	1.28 <i>0.605</i>	1	J	0.320	1.28	2.00	EPA 6020A
7440-02-0	Nickel	1.20 <i>0.605</i>	1	J	0.320	1.20	2.00	EPA 6020A
7440-09-7	Potassium	596 <i>J</i>	1	J	48.0	1750	3500	EPA 6020A
7782-49-2	Selenium	5.07	1		0.650	2.60	4.00	EPA 6020A
7440-22-4	Silver	<0.116	1	U	0.0290	0.116	0.225	EPA 6020A
7440-23-5	Sodium	3000 <i>J</i>	1		32.0	120	200	EPA 6020A
7440-28-0	Thallium	<0.230	1	U	0.0580	0.230	0.400	EPA 6020A
7440-62-2	Vanadium	0.282	1	J	0.200	0.800	1.00	EPA 6020A
7440-66-6	Zinc	<6.40	1	U	1.60	6.40	10.0	EPA 6020A

EBL

CCM

EBL

EBL

MSH

MSH

MSH/2/15

INORGANIC ANALYSIS DATA SHEET
EPA 6020A

142E
IR78-GW10D-15A

Laboratory: ENCO Orlando

SDG: A501570-CTOWE86

Client: CH2M Hill, Inc. (CH025)

Project: CTO-WE86 MCB Camp Lejeune Site 78

Matrix: Ground Water

Laboratory ID: A501570-14RE1

File ID: 032715_RP1_Fe_LTZ-065

Sampled: 03/14/15 14:20

Prepared: 03/19/15 14:24

Analyzed: 03/27/15 13:01

Solids: 0.00

Preparation: EPA 3005A

Initial/Final: 50 mL / 50 mL

Batch: 5C19032

Sequence: AA33175

Calibration: 1503102

Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7440-70-2	Calcium	54400	10	✓	360	12000	17500	EPA 6020A
7439-89-6	Iron	15.8	1	J	3.80	15.0	25.0	EPA 6020A

msl/2/15

INORGANIC ANALYSIS DATA SHEET
EPA 6020A

IR78-GW11-15A

Laboratory: ENCO Orlando

SDG: A501570-CTOWE86

Client: CH2M Hill, Inc. (CH025)

Project: CTO-WE86 MCB Camp Lejeune Site 78

Matrix: Ground Water

Laboratory ID: A501570-15

File ID: 032715 RP1_Fe_LTZ-067

Sampled: 03/14/15 09:25

Prepared: 03/19/15 14:24

Analyzed: 03/27/15 13:08

Solids: 0.00

Preparation: EPA 3005A

Initial/Final: 50 mL / 50 mL

Batch: 5C19032

Sequence: AA33175

Calibration: 1503102

Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7429-90-5	Aluminum	203	1		6.80	25.0	45.0	EPA 6020A
7440-36-0	Antimony	<0.440	1	U	0.110	0.440	0.500	EPA 6020A
7440-38-2	Arsenic	<10.0	1	U	0.610	10.0	15.0	EPA 6020A
7440-39-3	Barium	8.79	1	J	2.00	8.00	10.0	EPA 6020A
7440-41-7	Beryllium	<0.370	1	U	0.0940	0.370	0.800	EPA 6020A
7440-43-9	Cadmium	<4.00	1	U	0.110	4.00	8.00	EPA 6020A
7440-70-2	Calcium <i>exclude</i>	19700	1	E	36.0	1200	1750	EPA 6020A
7440-47-3	Chromium	<3.00	1	U	0.450	3.00	5.00	EPA 6020A
7440-48-4	Cobalt	<0.840	1	U	0.210	0.840	1.00	EPA 6020A
7440-50-8	Copper	<0.880	1	U	0.220	0.880	1.50	EPA 6020A
7439-89-6	Iron <i>exclude</i>	58.6 J	1	X	3.80	15.0	25.0	EPA 6020A <i>CH</i>
7439-92-1	Lead	<0.600	1	U	0.160	0.600	1.00	EPA 6020A
7439-95-4	Magnesium	897	1		30.0	120	200	EPA 6020A
7439-96-5	Manganese	<i>1.28</i> 0.565 <i>u</i>	1	<i>✓</i>	0.320	1.28	2.00	EPA 6020A <i>EBL</i>
7440-02-0	Nickel	<1.20	1	U	0.320	1.20	2.00	EPA 6020A
7440-09-7	Potassium	253 <i>J</i>	1	<i>✓</i>	48.0	1750	3500	EPA 6020A <i>MSH</i>
7782-49-2	Selenium	2.31	1	J	0.650	2.60	4.00	EPA 6020A
7440-22-4	Silver	<0.116	1	U	0.0290	0.116	0.225	EPA 6020A
7440-23-5	Sodium	1340 <i>u</i>	1		32.0	120	200	EPA 6020A <i>EBL</i>
7440-28-0	Thallium	<0.230	1	U	0.0580	0.230	0.400	EPA 6020A
7440-62-2	Vanadium	0.358	1	J	0.200	0.800	1.00	EPA 6020A
7440-66-6	Zinc	<6.40	1	U	1.60	6.40	10.0	EPA 6020A

rw 5/21/15

15R5

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

IR78-GW11-15A

Laboratory: ENCO Orlando

SDG: A501570-CTOWE86

Client: CH2M Hill, Inc. (CH025)

Project: CTO-WE86 MCB Camp Lejeune Site 78

Matrix: Ground Water

Laboratory ID: A501570-15RE1

File ID: 032715_RP1_Fe_LTZ-068

Sampled: 03/14/15 09:25

Prepared: 03/19/15 14:24

Analyzed: 03/27/15 13:12

Solids: 0.00

Preparation: EPA 3005A

Initial/Final: 50 mL / 50 mL

Batch: 5C19032

Sequence: AA33175

Calibration: 1503102

Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7440-70-2	Calcium	20900	10	Q	360	12000	17500	EPA 6020A
7439-89-6	Iron	59.5	1		3.80	15.0	25.0	EPA 6020A

μs/l/s

INORGANIC ANALYSIS DATA SHEET
EPA 6020A

16
IR78-GW11D-15A

Laboratory: ENCO Orlando

SDG: A501570-CTOWE86

Client: CH2M Hill, Inc. (CH025)

Project: CTO-WE86 MCB Camp Lejeune Site 78

Matrix: Ground Water

Laboratory ID: A501570-16

File ID: 032715 RP1 Fe LTZ-069

Sampled: 03/14/15 09:30

Prepared: 03/19/15 14:24

Analyzed: 03/27/15 13:16

Solids: 0.00

Preparation: EPA 3005A

Initial/Final: 50 mL / 50 mL

Batch: 5C19032

Sequence: AA33175

Calibration: 1503102

Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7429-90-5	Aluminum	165	1		6.80	25.0	45.0	EPA 6020A
7440-36-0	Antimony	<0.440	1	U	0.110	0.440	0.500	EPA 6020A
7440-38-2	Arsenic	<10.0	1	U	0.610	10.0	15.0	EPA 6020A
7440-39-3	Barium	8.80	1	J	2.00	8.00	10.0	EPA 6020A
7440-41-7	Beryllium	<0.370	1	U	0.0940	0.370	0.800	EPA 6020A
7440-43-9	Cadmium	<4.00	1	U	0.110	4.00	8.00	EPA 6020A
7440-70-2	Calcium	20700	1	E	36.0	1200	1750	EPA 6020A
7440-47-3	Chromium	<3.00	1	U	0.450	3.00	5.00	EPA 6020A
7440-48-4	Cobalt	<0.840	1	U	0.210	0.840	1.00	EPA 6020A
7440-50-8	Copper	0.880 u	1	✓	0.220	0.880	1.50	EPA 6020A
7439-89-6	Iron	47.3 J	1	Q	3.80	15.0	25.0	EPA 6020A
7439-92-1	Lead	<0.600	1	U	0.160	0.600	1.00	EPA 6020A
7439-95-4	Magnesium	880	1		30.0	120	200	EPA 6020A
7439-96-5	Manganese	1.28 u	1	✓	0.320	1.28	2.00	EPA 6020A
7440-02-0	Nickel	<1.20	1	U	0.320	1.20	2.00	EPA 6020A
7440-09-7	Potassium	248 J	1	✓	48.0	1750	3500	EPA 6020A
7782-49-2	Selenium	2.26	1	J	0.650	2.60	4.00	EPA 6020A
7440-22-4	Silver	<0.116	1	U	0.0290	0.116	0.225	EPA 6020A
7440-23-5	Sodium	1340 u	1		32.0	120	200	EPA 6020A
7440-28-0	Thallium	<0.230	1	U	0.0580	0.230	0.400	EPA 6020A
7440-62-2	Vanadium	0.311	1	J	0.200	0.800	1.00	EPA 6020A
7440-66-6	Zinc	<6.40	1	U	1.60	6.40	10.0	EPA 6020A

EBL

CH

EBL

MSH

EBL

rw 5/21/15

1622

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

IR78-GW11D-15A

Laboratory: ENCO Orlando

SDG: A501570-CTOWE86

Client: CH2M Hill, Inc. (CH025)

Project: CTO-WE86 MCB Camp Lejeune Site 78

Matrix: Ground Water

Laboratory ID: A501570-16RE1

File ID: 032715_RP1_Fe_LTZ-070

Sampled: 03/14/15 09:30

Prepared: 03/19/15 14:24

Analyzed: 03/27/15 13:20

Solids: 0.00

Preparation: EPA 3005A

Initial/Final: 50 mL / 50 mL

Batch: 5C19032

Sequence: AA33175

Calibration: 1503102

Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7440-70-2	Calcium	21300	10	✓	360	12000	17500	EPA 6020A
7439-89-6	Iron	47.1	1		3.80	15.0	25.0	EPA 6020A

MS/2/15

INORGANIC ANALYSIS DATA SHEET
EPA 6020A

17
IR78-GW42-15A

Laboratory: ENCO Orlando

SDG: A501570-CTOWE86

Client: CH2M Hill, Inc. (CH025)

Project: CTO-WE86 MCB Camp Lejeune Site 78

Matrix: Ground Water

Laboratory ID: A501570-17

File ID: 032715_RP1_Fe_LTZ-029

Sampled: 03/14/15 12:40

Prepared: 03/19/15 14:24

Analyzed: 03/27/15 10:39

Solids: 0.00

Preparation: EPA 3005A

Initial/Final: 50 mL / 50 mL

Batch: 5C19032

Sequence: AA33175

Calibration: 1503102

Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7429-90-5	Aluminum	49.7	1		6.80	25.0	45.0	EPA 6020A
7440-36-0	Antimony	0.143	1	J	0.110	0.440	0.500	EPA 6020A
7440-38-2	Arsenic	<10.0	1	U	0.610	10.0	15.0	EPA 6020A
7440-39-3	Barium	49.3	1		2.00	8.00	10.0	EPA 6020A
7440-41-7	Beryllium	0.225	1	J	0.0940	0.370	0.800	EPA 6020A
7440-43-9	Cadmium	<4.00	1	U	0.110	4.00	8.00	EPA 6020A
7440-70-2	Calcium <i>exclude</i>	33400	1	EQ	36.0	1200	1750	EPA 6020A
7440-47-3	Chromium	0.519	1	J	0.450	3.00	5.00	EPA 6020A
7440-48-4	Cobalt	<0.840	1	U	0.210	0.840	1.00	EPA 6020A
7440-50-8	Copper	0.880 0.282 u	1	J	0.220	0.880	1.50	EPA 6020A
7439-89-6	Iron <i>exclude</i>	8900 J	1	EQ	3.80	15.0	25.0	EPA 6020A
7439-92-1	Lead	<0.600	1	U	0.160	0.600	1.00	EPA 6020A
7439-95-4	Magnesium	2670	1		30.0	120	200	EPA 6020A
7439-96-5	Manganese	57.9	1		0.320	1.28	2.00	EPA 6020A
7440-02-0	Nickel	1.20 0.644 u	1	J	0.320	1.20	2.00	EPA 6020A
7440-09-7	Potassium	1920 J	1	J	48.0	1750	3500	EPA 6020A
7782-49-2	Selenium	<2.60	1	U	0.650	2.60	4.00	EPA 6020A
7440-22-4	Silver	<0.116	1	U	0.0290	0.116	0.225	EPA 6020A
7440-23-5	Sodium	8900 J	1	J	32.0	120	200	EPA 6020A
7440-28-0	Thallium	<0.230	1	U	0.0580	0.230	0.400	EPA 6020A
7440-62-2	Vanadium	2.86	1		0.200	0.800	1.00	EPA 6020A
7440-66-6	Zinc	6.40 4.24 u	1	J	1.60	6.40	10.0	EPA 6020A

EBL

EC4

EBL

MSH

MSH

EBL

MSH 5/2/15

17RE

INORGANIC ANALYSIS DATA SHEET
EPA 6020A

IR78-GW42-15A

Laboratory: ENCO Orlando

SDG: A501570-CTOWE86

Client: CH2M Hill, Inc. (CH025)

Project: CTO-WE86 MCB Camp Lejeune Site 78

Matrix: Ground Water

Laboratory ID: A501570-17RE1

File ID: 032715_RP1_Fe_LTZ-031

Sampled: 03/14/15 12:40

Prepared: 03/19/15 14:24

Analyzed: 03/27/15 10:46

Solids: 0.00

Preparation: EPA 3005A

Initial/Final: 50 mL / 50 mL

Batch: 5C19032

Sequence: AA33175

Calibration: 1503102

Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7440-70-2	Calcium	35400	20	D	720	24000	35000	EPA 6020A
7439-89-6	Iron	9780	20	D	76.0	300	500	EPA 6020A

MW 5/21/15

INORGANIC ANALYSIS DATA SHEET
EPA 6020A

19
IR78-GW50-15A

Laboratory: ENCO Orlando

SDG: A501570-CTOWE86

Client: CH2M Hill, Inc. (CH025)

Project: CTO-WE86 MCB Camp Lejeune Site 78

Matrix: Ground Water

Laboratory ID: A501570-19

File ID: 032715_RP1_Fe_LTZ-091

Sampled: 03/13/15 16:10

Prepared: 03/19/15 14:24

Analyzed: 03/27/15 14:41

Solids: 0.00

Preparation: EPA 3005A

Initial/Final: 50 mL / 50 mL

Batch: 5C19032

Sequence: AA33175

Calibration: 1503102

Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7429-90-5	Aluminum	<625	25	UD	170	625	1120	EPA 6020A
7440-36-0	Antimony	<11.0	25	UD	2.75	11.0	12.5	EPA 6020A
7440-38-2	Arsenic	<250	25	UD	15.2	250	375	EPA 6020A
7440-39-3	Barium	<200	25	UD	50.0	200	250	EPA 6020A
7440-41-7	Beryllium	<9.25	25	UD	2.35	9.25	20.0	EPA 6020A
7440-43-9	Cadmium	<100	25	UD	2.75	100	200	EPA 6020A
7440-70-2	Calcium	137000	25	UD	900	30000	43800	EPA 6020A
7440-47-3	Chromium	<75.0	25	UD	11.2	75.0	125	EPA 6020A
7440-48-4	Cobalt	<21.0	25	UD	5.25	21.0	25.0	EPA 6020A
7440-50-8	Copper	<22.0	25	UD	5.50	22.0	37.5	EPA 6020A
7439-89-6	Iron <i>exclude</i>	48900 J	25	UD	95.0	375	625	EPA 6020A
7439-92-1	Lead	<15.0	25	UD	4.00	15.0	25.0	EPA 6020A
7439-95-4	Magnesium	11100	25	UD	750	3000	5000	EPA 6020A
7439-96-5	Manganese	411	25	UD	8.00	32.0	50.0	EPA 6020A
7440-02-0	Nickel	<30.0	25	UD	8.00	30.0	50.0	EPA 6020A
7440-09-7	Potassium	2740 J	25	UD	1200	43800	87500	EPA 6020A
7782-49-2	Selenium	<65.0	25	UD	16.2	65.0	100	EPA 6020A
7440-22-4	Silver	<2.90	25	UD	0.725	2.90	5.62	EPA 6020A
7440-23-5	Sodium	13800 u	25	UD	800	3000	5000	EPA 6020A
7440-28-0	Thallium	<5.75	25	UD	1.45	5.75	10.0	EPA 6020A
7440-62-2	Vanadium	<20.0	25	UD	5.00	20.0	25.0	EPA 6020A
7440-66-6	Zinc	<160	25	UD	40.0	160	250	EPA 6020A

cch

MSH

EBL

MSH/2/15

INORGANIC ANALYSIS DATA SHEET
EPA 6020A

IR78-GW50-15A ^{19RE}

Laboratory: ENCO Orlando

SDG: A501570-CTOWE86

Client: CH2M Hill, Inc. (CH025)

Project: CTO-WE86 MCB Camp Lejeune Site 78

Matrix: Ground Water

Laboratory ID: A501570-19RE1

File ID: 040215a_DOD-025

Sampled: 03/13/15 16:10

Prepared: 03/19/15 14:24

Analyzed: 04/02/15 13:41

Solids: 0.00

Preparation: EPA 3005A

Initial/Final: 50 mL / 50 mL

Batch: 5C19032

Sequence: AA33263

Calibration: 1504011

Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7439-89-6	Iron	51400	200	D	760	3000	5000	EPA 6020A

ms/zills

21

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

IR78-GW53R-15A

Laboratory: ENCO Orlando

SDG: A501570-CTOWE86

Client: CH2M Hill, Inc. (CH025)

Project: CTO-WE86 MCB Camp Lejeune Site 78

Matrix: Ground Water

Laboratory ID: A501570-21

File ID: 032715_RP1_Fe_LTZ-078

Sampled: 03/14/15 13:50

Prepared: 03/19/15 14:24

Analyzed: 03/27/15 13:49

Solids: 0.00

Preparation: EPA 3005A

Initial/Final: 50 mL / 50 mL

Batch: 5C19032

Sequence: AA33175

Calibration: 1503102

Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7429-90-5	Aluminum	163	5	JD	34.0	125	225	EPA 6020A
7440-36-0	Antimony	<2.20	5	UD	0.550	2.20	2.50	EPA 6020A
7440-38-2	Arsenic	<50.0	5	UD	3.05	50.0	75.0	EPA 6020A
7440-39-3	Barium	71.6	5	JD	10.0	40.0	50.0	EPA 6020A
7440-41-7	Beryllium	<1.85	5	UD	0.470	1.85	4.00	EPA 6020A
7440-43-9	Cadmium	<20.0	5	UD	0.550	20.0	40.0	EPA 6020A
7440-70-2	Calcium <i>exclude</i>	114000	5	DE	180	6000	8750	EPA 6020A
7440-47-3	Chromium	<15.0	5	UD	2.25	15.0	25.0	EPA 6020A
7440-48-4	Cobalt	<4.20	5	UD	1.05	4.20	5.00	EPA 6020A
7440-50-8	Copper	<4.40	5	UD	1.10	4.40	7.50	EPA 6020A
7439-89-6	Iron <i>exclude</i>	7450 J	5	DE	19.0	75.0	125	EPA 6020A <i>ETH</i>
7439-92-1	Lead	<3.00	5	UD	0.800	3.00	5.00	EPA 6020A
7439-95-4	Magnesium	5450	5	JD	150	600	1000	EPA 6020A
7439-96-5	Manganese	61.2	5	JD	1.60	6.40	10.0	EPA 6020A
7440-02-0	Nickel	<i>6.00</i> 1.64 <i>u</i>	5	JD	1.60	6.00	10.0	EPA 6020A <i>EBL</i>
7440-09-7	Potassium	1420 <i>J</i>	5	JD	240	8750	17500	EPA 6020A <i>MSH</i>
7782-49-2	Selenium	<13.0	5	UD	3.25	13.0	20.0	EPA 6020A
7440-22-4	Silver	<0.580	5	UD	0.145	0.580	1.12	EPA 6020A
7440-23-5	Sodium	10600 <i>u</i>	5	JD	160	600	1000	EPA 6020A <i>EBL</i>
7440-28-0	Thallium	<1.15	5	UD	0.290	1.15	2.00	EPA 6020A
7440-62-2	Vanadium	1.05	5	JD	1.00	4.00	5.00	EPA 6020A
7440-66-6	Zinc	<32.0	5	UD	8.00	32.0	50.0	EPA 6020A

analysis

INORGANIC ANALYSIS DATA SHEET
EPA 6020A

21RE
 IR78-GW53R-15A

Laboratory: ENCO Orlando

SDG: A501570-CTOWE86

Client: CH2M Hill, Inc. (CH025)

Project: CTO-WE86 MCB Camp Lejeune Site 78

Matrix: Ground Water

Laboratory ID: A501570-21RE1

File ID: 032715_RP1_Fe_LTZ-079

Sampled: 03/14/15 13:50

Prepared: 03/19/15 14:24

Analyzed: 03/27/15 13:53

Solids: 0.00

Preparation: EPA 3005A

Initial/Final: 50 mL / 50 mL

Batch: 5C19032

Sequence: AA33175

Calibration: 1503102

Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7440-70-2	Calcium	119000	20	D	720	24000	35000	EPA 6020A
7439-89-6	Iron	7660	20	D	76.0	300	500	EPA 6020A

MW 5/21/15

22

INORGANIC ANALYSIS DATA SHEET
EPA 6020A

IR78-GW56-15A

Laboratory: ENCO Orlando

SDG: A501570-CTOWE86

Client: CH2M Hill, Inc. (CH025)

Project: CTO-WE86 MCB Camp Lejeune Site 78

Matrix: Ground Water

Laboratory ID: A501570-22

File ID: 032715_RP1_Fe_LTZ-080

Sampled: 03/13/15 15:05

Prepared: 03/19/15 14:24

Analyzed: 03/27/15 13:57

Solids: 0.00

Preparation: EPA 3005A

Initial/Final: 50 mL / 50 mL

Batch: 5C19032

Sequence: AA33175

Calibration: 1503102

Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7429-90-5	Aluminum	<125	5	UD	34.0	125	225	EPA 6020A
7440-36-0	Antimony	<2.20	5	UD	0.550	2.20	2.50	EPA 6020A
7440-38-2	Arsenic	<50.0	5	UD	3.05	50.0	75.0	EPA 6020A
7440-39-3	Barium	37.3	5	JD	10.0	40.0	50.0	EPA 6020A
7440-41-7	Beryllium	<1.85	5	UD	0.470	1.85	4.00	EPA 6020A
7440-43-9	Cadmium	<20.0	5	UD	0.550	20.0	40.0	EPA 6020A
7440-70-2	Calcium <i>exclude</i>	146000	5	DE	180	6000	8750	EPA 6020A
7440-47-3	Chromium	<15.0	5	UD	2.25	15.0	25.0	EPA 6020A
7440-48-4	Cobalt	<4.20	5	UD	1.05	4.20	5.00	EPA 6020A
7440-50-8	Copper	<4.40	5	UD	1.10	4.40	7.50	EPA 6020A
7439-89-6	Iron <i>exclude</i>	184 J	5	DE	19.0	75.0	125	EPA 6020A <i>CCM</i>
7439-92-1	Lead	<3.00	5	UD	0.800	3.00	5.00	EPA 6020A
7439-95-4	Magnesium	4400	5	D	150	600	1000	EPA 6020A
7439-96-5	Manganese	18.3	5	D	1.60	6.40	10.0	EPA 6020A
7440-02-0	Nickel	<i>6.00</i> 2.08 <i>U</i>	5	JD	1.60	6.00	10.0	EPA 6020A <i>EBL</i>
7440-09-7	Potassium	1530 <i>J</i>	5	JD	240	8750	17500	EPA 6020A <i>MSH</i>
7782-49-2	Selenium	<13.0	5	UD	3.25	13.0	20.0	EPA 6020A
7440-22-4	Silver	<0.580	5	UD	0.145	0.580	1.12	EPA 6020A
7440-23-5	Sodium	9320 <i>u</i>	5	D	160	600	1000	EPA 6020A <i>EBL</i>
7440-28-0	Thallium	<1.15	5	UD	0.290	1.15	2.00	EPA 6020A
7440-62-2	Vanadium	<4.00	5	UD	1.00	4.00	5.00	EPA 6020A
7440-66-6	Zinc	<32.0	5	UD	8.00	32.0	50.0	EPA 6020A

nw 5/21/15

22RE

INORGANIC ANALYSIS DATA SHEET

EPA 6020A

IR78-GW56-15A

Laboratory: ENCO Orlando

SDG: A501570-CTOWE86

Client: CH2M Hill, Inc. (CH025)

Project: CTO-WE86 MCB Camp Lejeune Site 78

Matrix: Ground Water

Laboratory ID: A501570-22RE1

File ID: 032715_RP1_Fe_LTZ-081

Sampled: 03/13/15 15:05

Prepared: 03/19/15 14:24

Analyzed: 03/27/15 14:01

Solids: 0.00

Preparation: EPA 3005A

Initial/Final: 50 mL / 50 mL

Batch: 5C19032

Sequence: AA33175

Calibration: 1503102

Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7440-70-2	Calcium	145000	50	Ⓟ	1800	60000	87500	EPA 6020A
7439-89-6	Iron	169	5	Ⓟ	19.0	75.0	125	EPA 6020A

mw skilis

INORGANIC ANALYSIS DATA SHEET
EPA 6020A

IR78-GW60-15A

Laboratory: ENCO Orlando

SDG: A501570-CTOWE86

Client: CH2M Hill, Inc. (CH025)

Project: CTO-WE86 MCB Camp Lejeune Site 78

Matrix: Ground Water

Laboratory ID: A501570-23

File ID: 032715_RP1_Fe_LTZ-076

Sampled: 03/14/15 11:15

Prepared: 03/19/15 14:24

Analyzed: 03/27/15 13:42

Solids: 0.00

Preparation: EPA 3005A

Initial/Final: 50 mL / 50 mL

Batch: 5C19032

Sequence: AA33175

Calibration: 1503102

Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7429-90-5	Aluminum	22.2	1	J	6.80	25.0	45.0	EPA 6020A
7440-36-0	Antimony	<0.440	1	U	0.110	0.440	0.500	EPA 6020A
7440-38-2	Arsenic	0.631	1	J	0.610	10.0	15.0	EPA 6020A
7440-39-3	Barium	16.2	1		2.00	8.00	10.0	EPA 6020A
7440-41-7	Beryllium	<0.370	1	U	0.0940	0.370	0.800	EPA 6020A
7440-43-9	Cadmium	<4.00	1	U	0.110	4.00	8.00	EPA 6020A
7440-70-2	Calcium	8760	1		36.0	1200	1750	EPA 6020A
7440-47-3	Chromium	<3.00	1	U	0.450	3.00	5.00	EPA 6020A
7440-48-4	Cobalt	<0.840	1	U	0.210	0.840	1.00	EPA 6020A
7440-50-8	Copper	<0.880	1	U	0.220	0.880	1.50	EPA 6020A
7439-89-6	Iron <i>exclude</i>	2440 J	1	EQ	3.80	15.0	25.0	EPA 6020A
7439-92-1	Lead	26.7	1		0.160	0.600	1.00	EPA 6020A
7439-95-4	Magnesium	5690	1		30.0	120	200	EPA 6020A
7439-96-5	Manganese	8.18	1		0.320	1.28	2.00	EPA 6020A
7440-02-0	Nickel	<1.20	1	U	0.320	1.20	2.00	EPA 6020A
7440-09-7	Potassium	1430 J	1	J	48.0	1750	3500	EPA 6020A
7782-49-2	Selenium	<2.60	1	U	0.650	2.60	4.00	EPA 6020A
7440-22-4	Silver	<0.116	1	U	0.0290	0.116	0.225	EPA 6020A
7440-23-5	Sodium	4670 J	1		32.0	120	200	EPA 6020A
7440-28-0	Thallium	<0.230	1	U	0.0580	0.230	0.400	EPA 6020A
7440-62-2	Vanadium	0.795	1	J	0.200	0.800	1.00	EPA 6020A
7440-66-6	Zinc	<6.40	1	U	1.60	6.40	10.0	EPA 6020A

CH

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AW 5/21/15

2322

INORGANIC ANALYSIS DATA SHEET
EPA 6020A

IR78-GW60-15A

Laboratory: ENCO Orlando

SDG: A501570-CTOWE86

Client: CH2M Hill, Inc. (CH025)

Project: CTO-WE86 MCB Camp Lejeune Site 78

Matrix: Ground Water

Laboratory ID: A501570-23RE1

File ID: 040215a_DOD-023

Sampled: 03/14/15 11:15

Prepared: 03/19/15 14:24

Analyzed: 04/02/15 13:37

Solids: 0.00

Preparation: EPA 3005A

Initial/Final: 50 mL / 50 mL

Batch: 5C19032

Sequence: AA33263

Calibration: 1504011

Instrument: OMICPMS1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7439-89-6	Iron	2340	10	P	38.0	150	250	EPA 6020A

nrsk/15

INORGANIC ANALYSIS DATA SHEET
EPA 7470A

4
IR78-GW113-15A

Laboratory: ENCO Orlando

SDG: A501570-CTOWE86

Client: CH2M Hill, Inc. (CH025)

Project: CTO-WE86 MCB Camp Lejeune Site 78

Matrix: Ground Water

Laboratory ID: A501570-04

File ID: Hg 5C19034 20012 w-033

Sampled: 03/15/15 10:30

Prepared: 03/24/15 12:52

Analyzed: 03/25/15 07:15

Solids: 0.00

Preparation: EPA 7470A

Initial/Final: 30 mL / 30 mL

Batch: 5C19034

Sequence: AA33124

Calibration: 1503095

Instrument: OMHG1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7439-97-6	Mercury	<0.0690	1	U	0.0230	0.0690	0.200	EPA 7470A

NW 5/21/15

INORGANIC ANALYSIS DATA SHEET
EPA 7470A

IR78-GW114-15A

Laboratory: ENCO Orlando

SDG: A501570-CTOWE86

Client: CH2M Hill, Inc. (CH025)

Project: CTO-WE86 MCB Camp Lejeune Site 78

Matrix: Ground Water

Laboratory ID: A501570-05

File ID: Hg 5C19034 20012 w-034

Sampled: 03/15/15 12:00

Prepared: 03/24/15 12:52

Analyzed: 03/25/15 07:18

Solids: 0.00

Preparation: EPA 7470A

Initial/Final: 30 mL / 30 mL

Batch: 5C19034

Sequence: AA33124

Calibration: 1503095

Instrument: OMHG1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7439-97-6	Mercury	<0.0690	1	U	0.0230	0.0690	0.200	EPA 7470A

NW 5/26/15

INORGANIC ANALYSIS DATA SHEET
EPA 7470A

11
IR78-GW04-1-15A

Laboratory: ENCO Orlando

SDG: A501570-CTOWE86

Client: CH2M Hill, Inc. (CH025)

Project: CTO-WE86 MCB Camp Lejeune Site 78

Matrix: Ground Water

Laboratory ID: A501570-11

File ID: Hg 5C19034 20012 w-035

Sampled: 03/15/15 11:30

Prepared: 03/24/15 12:52

Analyzed: 03/25/15 07:21

Solids: 0.00

Preparation: EPA 7470A

Initial/Final: 30 mL / 30 mL

Batch: 5C19034

Sequence: AA33124

Calibration: 1503095

Instrument: OMHG1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7439-97-6	Mercury	<0.0690	1	U	0.0230	0.0690	0.200	EPA 7470A

ms shal15

INORGANIC ANALYSIS DATA SHEET
EPA 7470A

IR78-GW10-15A

Laboratory: ENCO Orlando

SDG: A501570-CTOWE86

Client: CH2M Hill, Inc. (CH025)

Project: CTO-WE86 MCB Camp Lejeune Site 78

Matrix: Ground Water

Laboratory ID: A501570-13

File ID: Hg 5C19034 20012 w-036

Sampled: 03/14/15 14:15

Prepared: 03/24/15 12:52

Analyzed: 03/25/15 07:24

Solids: 0.00

Preparation: EPA 7470A

Initial/Final: 30 mL / 30 mL

Batch: 5C19034

Sequence: AA33124

Calibration: 1503095

Instrument: OMHG1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7439-97-6	Mercury	<0.0690	1	U	0.0230	0.0690	0.200	EPA 7470A

nw status

14

INORGANIC ANALYSIS DATA SHEET
EPA 7470A

IR78-GW10D-15A

Laboratory: ENCO Orlando

SDG: A501570-CTOWE86

Client: CH2M Hill, Inc. (CH025)

Project: CTO-WE86 MCB Camp Lejeune Site 78

Matrix: Ground Water

Laboratory ID: A501570-14

File ID: Hg 5C19034 20012 w-039

Sampled: 03/14/15 14:20

Prepared: 03/24/15 12:52

Analyzed: 03/25/15 07:33

Solids: 0.00

Preparation: EPA 7470A

Initial/Final: 30 mL / 30 mL

Batch: 5C19034

Sequence: AA33124

Calibration: 1503095

Instrument: OMHG1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7439-97-6	Mercury	<0.0690	1	U	0.0230	0.0690	0.200	EPA 7470A

msk/115

15

INORGANIC ANALYSIS DATA SHEET
EPA 7470A

IR78-GW11-15A

Laboratory: ENCO Orlando

SDG: A501570-CTOWE86

Client: CH2M Hill, Inc. (CH025)

Project: CTO-WE86 MCB Camp Lejeune Site 78

Matrix: Ground Water

Laboratory ID: A501570-15

File ID: Hg 5C19034 20012 w-040

Sampled: 03/14/15 09:25

Prepared: 03/24/15 12:52

Analyzed: 03/25/15 07:36

Solids: 0.00

Preparation: EPA 7470A

Initial/Final: 30 mL / 30 mL

Batch: 5C19034

Sequence: AA33124

Calibration: 1503095

Instrument: OMHG1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7439-97-6	Mercury	<0.0690	1	U	0.0230	0.0690	0.200	EPA 7470A

nr 5/21/15

INORGANIC ANALYSIS DATA SHEET

EPA 7470A

IR78-GW11D-15A 16

Laboratory: ENCO Orlando

SDG: A501570-CTOWE86

Client: CH2M Hill, Inc. (CH025)

Project: CTO-WE86 MCB Camp Lejeune Site 78

Matrix: Ground Water

Laboratory ID: A501570-16

File ID: Hg 5C19034 20012 w-041

Sampled: 03/14/15 09:30

Prepared: 03/24/15 12:52

Analyzed: 03/25/15 07:39

Solids: 0.00

Preparation: EPA 7470A

Initial/Final: 30 mL / 30 mL

Batch: 5C19034

Sequence: AA33124

Calibration: 1503095

Instrument: OMHG1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7439-97-6	Mercury	<0.0690	1	U	0.0230	0.0690	0.200	EPA 7470A

nr 8/21/15

17

INORGANIC ANALYSIS DATA SHEET
EPA 7470A

IR78-GW42-15A

Laboratory: ENCO Orlando

SDG: A501570-CTOWE86

Client: CH2M Hill, Inc. (CH025)

Project: CTO-WE86 MCB Camp Lejeune Site 78

Matrix: Ground Water

Laboratory ID: A501570-17

File ID: Hg 5C19034 20012 w-017

Sampled: 03/14/15 12:40

Prepared: 03/24/15 12:52

Analyzed: 03/25/15 06:26

Solids: 0.00

Preparation: EPA 7470A

Initial/Final: 30 mL / 30 mL

Batch: 5C19034

Sequence: AA33124

Calibration: 1503095

Instrument: OMHG1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7439-97-6	Mercury	<0.0690	1	U	0.0230	0.0690	0.200	EPA 7470A

nw 5/21/15

19

INORGANIC ANALYSIS DATA SHEET

EPA 7470A

IR78-GW50-15A

Laboratory: ENCO Orlando

SDG: A501570-CTOWE86

Client: CH2M Hill, Inc. (CH025)

Project: CTO-WE86 MCB Camp Lejeune Site 78

Matrix: Ground Water

Laboratory ID: A501570-19

File ID: Hg 5C19034 20012 w-042

Sampled: 03/13/15 16:10

Prepared: 03/24/15 12:52

Analyzed: 03/25/15 07:42

Solids: 0.00

Preparation: EPA 7470A

Initial/Final: 30 mL / 30 mL

Batch: 5C19034

Sequence: AA33124

Calibration: 1503095

Instrument: OMHG1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7439-97-6	Mercury	<0.0690	1	U	0.0230	0.0690	0.200	EPA 7470A

MW 5/21/15

INORGANIC ANALYSIS DATA SHEET
EPA 7470A

IR78-GW53R-15A

Laboratory: ENCO Orlando

SDG: A501570-CTOWE86

Client: CH2M Hill, Inc. (CH025)

Project: CTO-WE86 MCB Camp Lejeune Site 78

Matrix: Ground Water

Laboratory ID: A501570-21

File ID: Hg 5C19034 20012 w-043

Sampled: 03/14/15 13:50

Prepared: 03/24/15 12:52

Analyzed: 03/25/15 07:45

Solids: 0.00

Preparation: EPA 7470A

Initial/Final: 30 mL / 30 mL

Batch: 5C19034

Sequence: AA33124

Calibration: 1503095

Instrument: OMHG1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7439-97-6	Mercury	<0.0690	1	U	0.0230	0.0690	0.200	EPA 7470A

ms 3/21/15

INORGANIC ANALYSIS DATA SHEET
EPA 7470A

IR78-GW56-15A

Laboratory: ENCO Orlando

SDG: A501570-CTOWE86

Client: CH2M Hill, Inc. (CH025)

Project: CTO-WE86 MCB Camp Lejeune Site 78

Matrix: Ground Water

Laboratory ID: A501570-22

File ID: Hg 5C19034 20012 w-044

Sampled: 03/13/15 15:05

Prepared: 03/24/15 12:52

Analyzed: 03/25/15 07:48

Solids: 0.00

Preparation: EPA 7470A

Initial/Final: 30 mL / 30 mL

Batch: 5C19034

Sequence: AA33124

Calibration: 1503095

Instrument: OMHG1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7439-97-6	Mercury	<0.0690	1	U	0.0230	0.0690	0.200	EPA 7470A

mw sl21/15

INORGANIC ANALYSIS DATA SHEET
EPA 7470A

IR78-GW60-15A

Laboratory: ENCO Orlando

SDG: A501570-CTOWE86

Client: CH2M Hill, Inc. (CH025)

Project: CTO-WE86 MCB Camp Lejeune Site 78

Matrix: Ground Water

Laboratory ID: A501570-23

File ID: Hg 5C19034 20012 w-045

Sampled: 03/14/15 11:15

Prepared: 03/24/15 12:52

Analyzed: 03/25/15 07:51

Solids: 0.00

Preparation: EPA 7470A

Initial/Final: 30 mL / 30 mL

Batch: 5C19034

Sequence: AA33124

Calibration: 1503095

Instrument: OMHG1

CAS NO.	Analyte	Concentration (ug/L)	Dilution Factor	Q	DL	LOD	LOQ	Method
7439-97-6	Mercury	<0.0690	1	U	0.0230	0.0690	0.200	EPA 7470A

no solids